

# Amateur Photographer



FIRST LOOK

**Canon EOS 6D Mk II**  
Affordable full-frame DSLR gains  
26.2MP sensor and 45-point AF

Passionate about photography since 1884

# Ultimate focus

Get **sharper** landscapes & nature shots with **focus stacking**

- Vast depth of field • Razor-sharp composites • Best focus-stacking tools

## Slash your editing time

Our top **Lightroom** presets  
for instant photo brilliance

## EOS M6 reviewed

Has **Canon** cut too  
many corners?

## A celebration of Polaroid

The proud **history** of this  
instant classic revealed

**Latest and greatest accessories** • **Leica M10 stripped bare**

# D7500

Nikon  
100<sup>(th)</sup>  
anniversary



I AM CHASING MOMENTS



**I AM THE NEW NIKON D7500.** Don't let a great moment escape you. Equipped with a 20.9MP DX-CMOS sensor, 51-point AF and ISO 100 to 51200, the new Nikon D7500 can achieve stunning images in low light and has a continuous shooting speed of 8 fps. Wherever you move, an intuitive, tilting touch screen and slim body with deep grip offer added agility, and you can share your images in an instant to your smart device\*. Alternatively, capture movies in incredibly sharp 4K UHD to relive again and again. Go chase. [nikon.co.uk](http://nikon.co.uk)

\*This camera's built-in Bluetooth® capability can only be used with compatible smart devices. The Nikon Snap-Bridge application must be installed on the device before it can be used with this camera. For compatibility and to download the SnapBridge application, please visit Google Play® and App Store. The BLUETOOTH® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and Google Play® is a trademark of Google Inc.



*At the heart of the image*



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Getting sharper shots is one of the holy grails of modern photography, so it's a bit surprising that more enthusiasts don't make use of focus stacking. When used properly, focus stacking can be a great way of combining images to ensure razor-sharp results and maximum depth of field; it may sound complicated, but as our guide on page 14

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# 7days

## A week in photography

shows, it's actually quite straightforward and well worth giving a try. Hardware wise, we've got a full review of Canon's affordable and attractive new full-frame SLR, the EOS 6D Mark II as well as Michael Topham's first look at the company's EOS M6. Fans of nostalgia will also lap up our celebration of Polaroid, beginning on page 20. Enjoy!

Nigel Atherton, Editor

## ONLINE PICTURE OF THE WEEK



© SIMON BAKER

### Poppies at sunset

by Simon Baker

Nikon D750, 20mm, 1/1000sec at f/9, ISO 1000

This image by Simon Baker was uploaded to our Flickr page.

'This was taken a few miles from my home in Wiltshire,' he says. 'I was looking for an interesting scene for what promised to be a colourful sunset. When I noticed the poppies at the side of the field, I knew I'd found what I was looking for. It took

a bit of trial and error with my tripod close to the ground to get the composition right. I eventually found a position I was happy with and then waited for the sunset. I underexposed the scene to capture the colours of the sunset and then used local adjustments in Photoshop to highlight the poppies.'

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## Send us your pictures

If you'd like to see your work published in *Amateur Photographer*, here's how to send us your images:

Email Email a selection of low-res images (up to 5MB of attachments in total) to [appicturedesk@timeinc.com](mailto:appicturedesk@timeinc.com).

CD/DVD Send us a disc of high-resolution JPEG, TIFF or PSD images (at least 2480 pixels along its longest length), with a contact sheet, to the address on page 51.

Via our online communities Post your pictures into our Flickr group, Facebook page, Twitter feed, or the gallery on our website. See details above.

Transparencies/prints Well-packed prints or slides (without glass mounts) should be sent by Special Delivery, with a return SAE, to the address on page 51.

## NEWS ROUND-UP

The week in brief, edited by Liam Clifford and Hollie Latham Hucke

### New Billingham travel bags

Camera-bag manufacturer Billingham is venturing into the leisure market with a new range of travel bags, designed and made in England. The range launches with Weekender, Overnight, Thomas Briefcase and laptop bags, starting at £185. All bags are available from [www.billingham.co.uk](http://www.billingham.co.uk) and select retailers.



### Lensbaby reveals the latest Velvet

Lensbaby's latest manual focus lens is the Velvet 85. At 85mm f/1.8, it's a follow-up to the Velvet 56, known for producing lustrous skin tones and a pleasantly crisp, film-like aesthetic. This new lens has the smooth bokeh expected of 85mm lenses and is priced £385 (approx). See [www.lensbaby.com](http://www.lensbaby.com).



### Parr steps down as Magnum president

After three-and-a-half years, British photographer Martin Parr has stepped down as the president of Magnum Photos. He has been replaced by the newly elected Thomas Dworzak (right) from Germany. Dworzak has worked as a photojournalist for a number of years, covering world crises such as those in Kosovo and Chechnya, the attacks in London and the wars in Iraq and Afghanistan.



© VISION CHINA GROUP/GETTY



### Adventure photography bag

The PhotoCross is accessory-maker MindShift's latest adventure photography bag. Built to be comfortable as well as protecting your gear during long days in the field, it features a slimline design while having enough interior space to pack a tripod, laptop and camera. It is available now in two sizes, starting at £90. See [www.mindshiftgear.com/photocross](http://www.mindshiftgear.com/photocross).



### Pocket-sized storage

Western Digital has added new options to its My Passport Ultra series of external hard drives for backing up digital content. The latest drive comes with a redesigned metallic look, in 1, 2, 3 and 4TB versions. Available now from [www.wd.com](http://www.wd.com) and select retailers, starting at £82.99.



## GET UP & GO

### GLASGOW



© CHICK CHALMERS

### WEST MIDLANDS



### Lightroom for Landscapes

This workshop will cover a complete landscape photography workflow, using the library and develop modules. It will be led by Julian Rouse LRPS, an Adobe Lightroom certified expert, and include reviewing and choosing images, exposure, curves, lens corrections, sharpening and exposure matching.

23 July, [www.rps.org/events](http://www.rps.org/events)

### Scotland's Far North

These three bodies of work from the late 1970s provide a unique insight into Scotland's remote landscape, islands and people. Three photographers: Glyn Satterley, Chick Chalmers and Tom Kidd, bring a candid and sympathetic eye to the country.

Until 27 August, [www.streetlevelphotoworks.org/event/scotlands-far-north](http://www.streetlevelphotoworks.org/event/scotlands-far-north)

# BIG picture

The crowd winner  
of APOY Round Two -  
Hit the streets

 Round Two of the Amateur Photographer of the Year competition sponsored by Sigma was another great success with more than 2,000 entries flooding in from all over the globe. The theme was street photography, an ever-popular genre subject to many interpretations, with some taking a conventional approach and others experimenting.

As before, the expert judging panel here at AP (including street photographer Matt Hart) chose its top images. Marco Tagliarino from Milan took first place but the users of the competition's host site, Photocrowd, voted this image by Sanket Khuntale from Mumbai as their overall favourite. This is the annual Hindu festival of Krishna Janmashtami, which celebrates the birth of Krishna. Sanket wins a year's subscription to AP. Turn to page 29 for more details on APOY 2017 or visit [www.amateurphotographer.co.uk/apoy](http://www.amateurphotographer.co.uk/apoy).

## Words & numbers

**The eye  
should learn  
to listen  
before  
it looks**

Robert Frank

Swiss-US photographer b.1924

**1839**

Earliest known use of the word  
'photography', by astronomer  
Sir John Herschel



The most interesting things to see, to do and to shoot this week. By Oliver Atwell



PAISLEY



LONDON



LIVERPOOL

### Larry Herman

Sometimes it takes an outsider's perspective to reveal the true character of a location and the people who inhabit it. On show at the Paisley Gallery in Scotland is this revealing portrait of mid-1970s Clydeside by New York-born Larry Herman.

Until 20 August, [www.renfreshireleisure.com/paisleymuseum](http://www.renfreshireleisure.com/paisleymuseum)

### A Handful of Dust

This exhibition at the Whitechapel Gallery is a speculative history of the 20th century, tracing a visual journey through the imagery of wartime destruction to urban decay. It features works by more than 30 artists and photographers including Walker Evans.

Until 3 September  
[www.whitechapelgallery.org](http://www.whitechapelgallery.org)

### August Sander

Portraying a Nation: Germany 1919-1933 presents the faces of Germany between the two world wars as portrayed by painter Otto Dix (1891-1969) and photographer August Sander (1876-1964) - whose works document the country's radical extremes.

Until 15 October, [www.tate.org.uk/whats-on/tate-liverpool](http://www.tate.org.uk/whats-on/tate-liverpool)



© SUSAN BELL

Susan Bell's image won the 2016 Production Paradise Food off the Press category

# Food Photographer of the Year open for entries

**W**ITH a top prize of £5,000, the Pink Lady Food Photographer of the Year 2018 is now open for entries. The competition has a number of categories that cover the full cultural range of the depiction of food in society – from styled food for magazines to images of families eating together in celebration of religious festivals and the realities of food production. There is also a new category that will be awarded to the best Student Food Photographer.

Judges include Ferran Adrià, former head chef of the oft-voted world's best restaurant El Bulli; Jenna Close of the American Society of Media Photographers; Sheila Dillon of Radio 4's *The Food Programme*; photographer Henry Dallal; and the legendary Pierre Koffmann, one of only a handful of chefs in the UK to be awarded three Michelin stars.

The judges will be looking for images that not only show technical skill, but also originality with a real sense of connection with the subject matter, whether that be simply an apple on a plate, a cake of spun sugar, a baker covered in flour at four in the morning, or a pot



Inspirational images from previous Food Photographer of the Year winners Jenelle Bonfield (above top) and Mark Benham (above)

simmering on an open fire in the African bush.

The competition was founded in 2011 by Caroline Kenyon and her team at The Food Awards Company, who wanted to see this wonderful and vibrant sector of photography given the recognition it deserves. Since then, more than 30,000 images have been submitted from across the world and almost one million people have visited the competition website.

'It just gets better and better each year – from Austria to Australia, Kuala Lumpur to Kent, the standard of entries is exceptional,' writes Kenyon.

'It's so exciting to see the amount of recognition our winners receive in the media across the world. And it's incredibly rewarding to hear about our finalists' amazing success stories, photography commissions, road trips, invitations to host workshops and master classes in far-flung corners of the globe.'

Entries close on 6 February 2018. For more details about the competition visit [www.pinkladyfoodphotographeroftheyear.com](http://www.pinkladyfoodphotographeroftheyear.com).



## Loupedeck arrives in the UK

**L**OUPEDECK, a purpose-built console for controlling Adobe's Lightroom photo-editing suite, will be available in the UK from 17 July.

Designed and built by a team of former Nokia developers, Loupedeck is a custom-built hardware console that provides complete control of Lightroom. In a similar way to a DJ's mixing desk, the console's scrolling wheels, dials and buttons enable users to edit photos and images faster and without the distraction of a keyboard or mouse.

Loupedeck is designed to work with both Mac- and Windows-based computers and, since the layout of the deck corresponds directly to Lightroom's interface, it should prove useful for beginners and professionals alike. Priced £325, it is available from [www.loupedeck.com](http://www.loupedeck.com).



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# Tamron reveals 24-70mm lens

**HOT ON THE HEELS** of the newly launched 18-400mm f/3.5-6.3 optic, Tamron has announced an update to its popular 24-70mm lens for full-frame Canon and Nikon DSLRs in the form of the SP 24-70mm f/2.8 Di VC USD G2.

The biggest update comes in the form of a new dual micro-processing unit (MPU) control system, which Tamron claims will produce faster and more precise autofocus performance, as well as up to 5 stops of vibration compensation for more stable images. The new lens also features a minimum focus distance of 15in, a maximum magnification ratio of 1:5 and weighs 900g (Nikon) and 905g (Canon).

Inside, the SP 24-70mm has 17 lens elements arranged in 12 groups, including a range of Extra Refractive Index, Low Dispersion elements,



The SP 24-70mm f/2.8 Di VC USD G2 has a new dual MPU control system for more precise autofocus

glass aspherical and hybrid aspherical elements. Put together, this design should work to minimise as many chromatic aberrations as possible while maintaining a compact design.

The lens is also treated with Tamron's nanotechnology-based Extended Bandwidth and Angular-Dependency (eBAND) coating, to help control any ghosting or flare effects that might

occur while shooting a backlit subject. On the outside, a fluorine-based coating protects the new lens from dirt, and it benefits from a locking lens hood and weather-resistant build.

Nikon and Canon users can expect to see a first shipment of the lenses at the end of July. The Tamron SP 24-70mm f/2.8 Di VC USD G2 is priced £1,249.

## Lee Filters launches ProGlass IRND range

**ORIGINALLY** designed to meet the needs of the film industry, Lee Filters' ProGlass IRND range is now available in sizes to fit the Seven5, 100mm and SW150 systems.

Made from 2mm-thick optically flat glass, new coating technology means the range is available in 2 (0.6ND), 3

(0.9ND), 4 (1.2ND) and 6 (1.8ND) stops, but also in ultra-long 10- (3ND) and 15-stop (4.5ND) versions.

In addition, filters in the ProGlass IRND range are designed to block both infrared and ultraviolet pollution, so blacks should be rendered truly black, whites should be clean and all of it should be crisp. The 6-, 10- and 15-stop versions come with a foam seal to prevent light leaks during long exposures.

All the filters in the range can be used with other filters, including neutral-density grads and the polariser. The ProGlass IRND range is available now, priced from £132. For more details visit [www.leefilters.com](http://www.leefilters.com).

Two years in the making, the new ProGlass IRND range is available now

For the latest news visit [www.amateurphotographer.co.uk](http://www.amateurphotographer.co.uk)

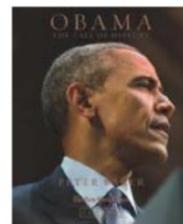
## New Books

The latest and best books from the world of photography. By Oliver Atwell



### Obama: The Call of History

by Peter Baker, Abrams, £35, 320 pages, hardback, ISBN: 978-0935112900



PETER BAKER is a man with a distinctive and authoritative insight into the Obama administration. For some time he has been *The New York Times* chief White House correspondent as well as a contributing writer to *The New York Times Magazine*.

This voluminous pictorial biography covers Obama's eight years in the White House and is notable for the absolute depth of research, not just in its words, but also in the incredible array of images taken by a variety of photographers. Baker was a man with privileged access to the ins and outs of the President's life and as such we get perhaps the first real insight into his sometimes successful and sometimes troubled time. As far as political biographies and photographic records of Obama go, it'll certainly take some beating. ★★★★☆

### New York in Colour

by Nichole Robertson, Chronicle Books, £13.99, 128 pages, hardback ISBN: 978-1452154763



THINKING back to the history of cinema and photography, New York is a city that often finds itself rendered in atmospheric black & white. Photographers such as Matt Weber and Richard Sandler have taken this approach with their beautiful monochrome images, as has Woody Allen in his film *Manhattan*. However, this photographic portrait of New York by Nichole Robertson takes a very different approach. Through the lens of Robertson's camera, the Big Apple is a technicolour paradise. Yellows, reds, blues and greens bleed from the page and the images act together as one big love letter to a city still capable of capturing the imagination. ★★★★☆

# Canon EOS 6D Mark II

Michael Topham gets his hands on Canon's latest full-frame **EOS 6D Mark II**

## At a glance

- 26.2MP Full frame CMOS sensor
- ISO 100-40,000
- DIGIC 7 image processor
- Dual Pixel CMOS AF
- 45-point AF system
- 7,560-pixel metering
- Full HD video & 4K time-lapse movie
- 3.5mm microphone port
- Wi-Fi, NFC, Bluetooth enabled
- £1,999.99 (body only)

**AFTER** months of speculation, Canon has finally taken the wraps off its latest member in the EOS line-up – the Canon EOS 6D Mark II.

Often described as a junior full-frame DSLR model, the original Canon EOS 6D was designed to address a gap in the manufacturer's range, and – just as Canon envisaged – it became popular with enthusiast photographers looking to progress from an APS-C DSLR and take their first steps into full-frame photography without having to make a giant leap to the EOS 5D-series.

Though the new Canon EOS 6D Mark II boasts full-frame status and many of Canon's latest technological innovations, it very much remains a DSLR aimed at enthusiasts rather than professionals. As such, it falls into Canon's EOS for enthusiasts range and is priced accordingly. There's a whopping £1,350 difference between the Canon EOS 6D Mark II and Canon EOS 5D Mark IV, and what's also interesting is that it's £200 less than when the original EOS 6D was launched in 2012.

## Features

With regard to the imaging sensor, it's out with the old and in with the new. The camera employs a 26.2-million-pixel full-frame CMOS chip that can now shoot between ISO 100-40,000, expandable to ISO 50-102,400.

This new imaging sensor teams up with Canon's DIGIC 7 image processor. It can now shoot a continuous burst at up to 6.5fps and a detailed look at its specification tells us users can expect to



sustain a burst of up to 150 JPEGs, or 21 raw files, at 6.5fps.

When it comes to autofocus, the Mark II inherits the 45-point all cross-type AF sensor out of the EOS 80D, which is a considerable advance over the EOS 6D. Out of the 45 AF points on offer, 27 are f/8 compatible, with the centre point being sensitive down to f/2.8.

Speed benefits are also gained in live view thanks to the integration of Canon's Dual Pixel CMOS AF technology. Not only does it allow for high performance Servo AF tracking as well as smooth focusing, it also rules out the slothful AF performance in live view mode its predecessor was known for.

Turning our attention to the camera's metering, this is left in the capable hands of a 7,560-pixel RGB+IR metering sensor. We've seen this used before in the likes of the EOS 77D and it's proven to be reliable at delivering consistently accurate exposures. To counteract the rapid on/off pulsing you can get with some artificial lights, the EOS 6D Mark II also features Canon's Flicker Detection technology.

In the absence of 4K-movie recording you get Full HD (1920x1080) video at up to 60p and you're provided with a 3.5mm microphone port. There's no headphone port to monitor audio levels, but it does become the first full frame EOS to include 5-axis in-camera digital stabilisation for movie capture.

### Time-lapse

There's a 4K time-lapse movie mode that works in the same way as the HD time-lapse mode on the EOS 7D Mark II

### Autofocus

The working range of the EOS 6D Mark II's new 45-point AF system is the same as before. It's sensitive across a range of -3EV to 18EV

### Screen

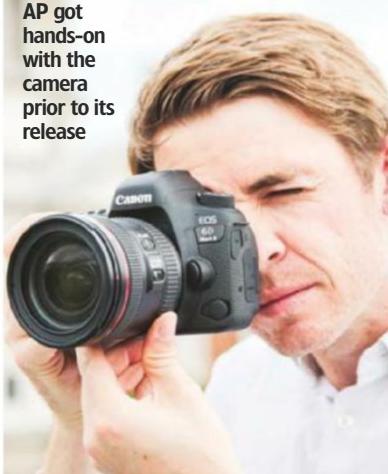
The 3in, 1,040k-dot vari-angle touchscreen lets you work easily from high and low angles. It'll be well received by EOS users

### SD card slot

The EOS 6D Mark II has a single SD card slot. For dual card slots look at the 5D Mark III or 5D Mark IV



AP got hands-on with the camera prior to its release



The EOS 6D Mark II feels almost identical to the original EOS 6D, but benefits from some body changes



Wi-Fi and NFC connectivity is built in to the camera, offering photographers the freedom to control it wirelessly from a smartphone or tablet that's running Canon's Camera Connect app. There's also Bluetooth connectivity to form a permanent connection to a smartphone – a feature previously seen on the EOS M5, EOS M6, EOS 800D and EOS 77D.

### Build and handling

The dimensions of the EOS 6D Mark II have changed slightly. It measures 144.0x10.5x74.8mm (WxHxD) and weighs 765g (body only) when it's loaded with an LP-E6N battery. The disappointing news is the existing BG-E13 battery grip isn't compatible. Those who'd like to improve handling with heavier lenses will need to buy a new BG-E21 battery grip (£199.99).

The chassis of the camera is made from aluminium alloy and polycarbonate resin with glass fibre, whereas the body is constructed from polycarbonate resin with special conductive fibre and glass fibre in some areas. Though it feels noticeably lighter in the hand than the EOS 5D Mark III or EOS 5D Mark IV, the body feels well made and highly durable. Canon also states that the body is dust and drip-resistant, which should see it survive drops of rain when used outside in squally weather conditions.

The biggest change to the body is located at the rear. A 3in, 1,040k-dot vari-angle touchscreen replaces the 3in, 1,040k-dot fixed screen of old. Being

able to pull the screen out and tilt it to your preferred angle gives it a distinct advantage over a fixed screen when attempting to shoot from tricky angles or unusual perspectives.

Above the screen you get an optical viewfinder that provides 98% coverage and 0.71x magnification. There's a large rubber eyecup to cushion the viewfinder against your eye and generally speaking it feels very similar to the original EOS 6D in the hand. The grip is well sculpted, though you'll find the grippy leather-effect finish doesn't extend all the way around the side of the body like it does on professional EOS bodies. You don't get a joystick to nudge the AF point around the frame either, but instead have to use a multi-controller that's incorporated into the rear wheel.

A new addition, albeit a minor one, is a small button behind the shutter button that's particularly useful for adjusting the AF point selection method very quickly.

It's safe to say anyone coming from an original EOS 6D will feel right at home operating the EOS 6D Mark II. It won't feel intimidating for those upgrading from a double-digit or triple-digit Canon APS-C DSLR either and Canon has done well to ensure that it feels both instinctive and intuitive to use for existing EOS DSLR users.

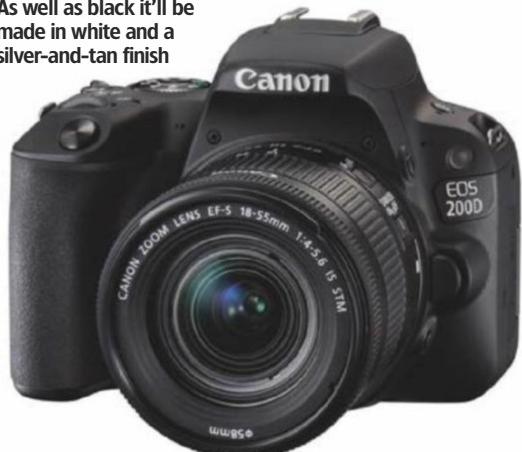
The EOS 6D Mark II will be available from July with a body-only price of £1,999.99. It'll also be made available as part of a kit with the EF 24-105mm f/3.5-5.6 IS STM lens for £2,379.99.

### First impressions

The Canon EOS 6D Mark II has been a long time coming. It sets its sights on improving where the EOS 6D left off and does so with a compelling set of features that will undoubtedly attract enthusiasts who are thinking of upgrading to full frame. From my brief hands-on I got the impression it's well built and I found little to fault in terms of its general performance and operation. Live view focusing is in a different league to the original EOS 6D and the vari-angle touchscreen is absolutely superb. It's one of the key standout features. Never before has it been so easy to compose an image from an awkward angle or position on a full-frame Canon DSLR.

## Canon EOS 200D

As well as black it'll be made in white and a silver-and-tan finish



NOT LONG after adding the EOS 800D to its line-up of beginner DSLRs, Canon has released its replacement for the four-year-old EOS 100D. The all-new EOS 200D inherits the 24.2MP APS-C CMOS sensor and DIGIC 7 image processor from Canon's EOS 800D/77D pairing and is capable of shooting continuously at up to 5fps.

At the time of writing it's the cheapest DSLR (£579.99 body only) in Canon's EOS line-up to feature Dual Pixel CMOS AF and offers an ISO range of 100-25,600 that's expandable to ISO 51,200 in its 'H' setting.

Elsewhere, the EOS 200D presents a basic layout of nine AF points with one single cross type in the centre. The shutter speed range spans from 30sec-1/4000sec and, just as you'd expect from a camera that's specifically out to target beginners to photography, there's a Scene Intelligent Auto mode, with a selection of Creative Filters.

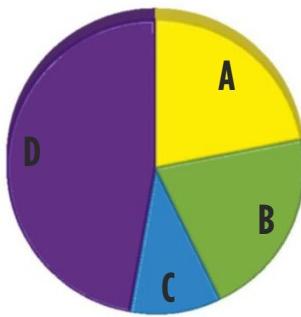
Like the EOS 6D Mark II, it has a 3in, 1,040k-dot vari-angle touchscreen. Above it you'll find an optical viewfinder offering 95% coverage. There's also a built-in flash, it provides +/-EV exposure compensation and allows users to shoot movies at Full HD quality at up to 60fps with the option to plug in an external microphone.

One new feature the EOS 200D boasts that was lacking on the EOS 100D is Wi-Fi. For anyone looking to step up from a smartphone this is, of course, a must-have feature. Inside the menu you also get an optional guided interface that provides information and practical advice specific to the exposure mode selected, while the design of the grip has changed slightly to be more in keeping with Canon's other EOS models in its line-up.

The Canon EOS 200D is due to go on sale in July. It'll cost £579.99 body only, or £679.99 with the EF-S 18-55mm f/3.5-5.6 IS STM kit lens.



The EOS 200D, like the EOS 100D, is an incredibly small DSLR



## In AP 1 July we asked...

How far would you be prepared to drive in the UK to get a shot that you have been longing to take?

### You answered...

A 50 miles	22%
B 100 miles	21%
C 200 miles	10%
D Happy to drive any distance to get the shot!	47%

### What you said

'I have frequently made round trips of 200-300 miles to get a photo that I envisaged – not infrequently having to repeat the trip several times because the light was not quite right when I got there!'

'In the spirit of things I've chosen the "any distance" option, although I'd add the proviso that it'd probably have to involve a bit of a stay-over somewhere afterwards. I say "in the spirit of things" because I don't drive – but I'll assume the question refers to any suitable modes of transport!'

'It can also be a measure of the priority photography takes in your life. Most day-to-day desires can be satisfied with very little travel. However, photographic subjects are spread far and wide, and some travel is inevitable. Photography caters for every taste and appetite – travel is just a by-product of this.'

'This is the first poll in a long time that I couldn't answer, seeing as I don't drive. But being interested mainly in street photography I only need to go where there are people.'

**Join the debate on the AP forum**

### This week we ask...

Do you currently use focus stacking?

**Vote online [www.amateurphotographer.co.uk](http://www.amateurphotographer.co.uk)**

# Inbox

Email [amateurphotographer@timeinc.com](mailto:amateurphotographer@timeinc.com) and include your full postal address.

**Write to** Inbox, Amateur Photographer, Time Inc. (UK), Pinehurst 2, Pinehurst Road, Farnborough Business Park, Farnborough, Hants GU14 7BF

## LETTER OF THE WEEK

### Is it art?

I always love Roger Hicks' *Final Analysis*, and this week (AP, 24 June) it's Roger's view about artists who use photography, and whether they are artists, that prompted my response. The question of just what art is and whether photography is an art has raged for years. Art itself was redefined by Duchamp's 'readymades', Rauschenberg's assemblages of found objects and Man Ray's wrapped

objects to be any thing or activity the artist chooses to call art. This is now the generally accepted definition. Artists are therefore self-defining. Man Ray hated being called a photographer because it was only part of what he did as an artist. Whether we think art is art doesn't matter, nor is it ever clear-cut.

I thought I'd send one of my images to demonstrate. Here a man sits in the Tate Gallery reading his phone. Is that art? The picture on the wall – is that art? It's hanging in the Tate Gallery so it must be. But wait. It isn't really there. I created it. I photographed the flower, used software to make the box, framed it, and cut and pasted it on the wall. I thought up the concept. Is it art now? Yes, I like to think so, but I don't mind being called a photographer.

**Roy Nash, via email**

Is this image by Roy Nash art or photography?



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set to macro. Results may vary, so check by slowly adjusting the focus ring with the camera set to macro before proceeding. Next, I applied a UV filter and finished it off with the original Fujifilm silver bezel. I prefer this method of Ken's to buying an adapter that can be expensive, bulky and ugly.

**Bob Houlston, via email**

### Rock and a hard place

The letter from Geoffrey Tyrell (AP 24 June) followed by your request for gig shots prompted me to dig out some negatives. At Southampton University in the early '70s I was fortunate enough to possess a Praktica LLC along with both 50mm and 100mm lenses. Funds were tight and my budget could only stretch to 10m bulk rolls of unbranded film purchased through classified ads in AP. One batch I obtained was rated at an alleged 1000 ASA and I used it at a Led Zeppelin gig in 1973. I remember shooting wide open at around 1/15sec-1/30sec and ignoring the metering, which was all over the place anyway with the stage lighting. The film was then 'cooked' for about an hour in warm Kodak D-76 developer! I have no idea what the eventual true ASA was, but I guess it can't have been more than 2000-4000, maybe 8000 at the very most. There was a degree of fog and, not surprisingly, very high contrast with no shadow detail, but several usable images resulted that printed remarkably well.

**Adam Kowalczyk,  
Gloucestershire**

**Adam, these pictures made this old rocker's day, and are a valuable record of an amazing time in music – Geoff Harris, deputy editor**

**Led Zep in 1973  
shot by Adam  
Kowalczyk on his  
Praktica LLC**



# Hello Slow

Relax, recharge, refresh, revitalise, reacquaint  
on self-guided walking, cycling and touring holidays in Europe and beyond.  
Hello you.

Tuscany, Italy. Photo by Gaz Williams  
Inntravel Slow Moments photographic competition  
Enter yours at [inntravel.co.uk/slow](http://inntravel.co.uk/slow)



**Inntravel.co.uk**  
The *Slow Holiday* people



# Viewpoint Ian Douglas

The debate rages on. Do you go with raw or JPEG? Ian Douglas from the Plymstock Camera Club in Plymouth offers some thoughts

**H**aving clocked up 45 years in photography, I've been reading with amusement, and some dismay, the ongoing debate about raw vs JPEG. The fact is, raw files contain more information than any other image file format, perhaps with the exception of Adobe Digital Negative (DNG). Adobe DNG can embed the original raw file, but it is proprietary, and although I do not see Adobe restricting use of DNG, I prefer to stand on the other side of this fence. The advantages and disadvantages have been well argued by many experts over the years, but the fact remains that ideally one should not only shoot in raw but also keep the raw file if at all possible.

Now, this may not be necessary for the many who have no real need to process raw or maximise the quality of their images. Certainly, raw is not an instant fix in the way JPEG is, and has some well-documented disadvantages. For example, there's the issue of size. Many a MacBook or Windows laptop user will have reached the point where their hard drive, especially if it's an SSD, is either full or approaching full. Also, processing a raw file takes some expertise. However, for me at least, it fulfills me in the same way as specialist processing used to in the days of film: lowering contrast and increasing shadow detail, etc. Indeed, Photoshop and other sophisticated image-editing programs allow the user to replicate darkroom work, with their ability to dodge, burn and tone.

## The ritual of printing

In my experience, the same people who enjoyed the ritual of making a print in the darkroom also get the most out of processing and printing a raw image at home. On the other hand, there are photographers who demand instant gratification and have neither the time nor the inclination – which in some cases comes down to a lack of skills – to engage with this technical side.

Of course, placing photographers, as I have done, into two distinct silos is unrealistic, as there are many that fall in



*Shoot raw now* from AP's 6 May issue gave readers some expert tips for shooting in raw

between, and even technical photographers who are great artists.

From my experience in photographic clubs, many photographers are still getting to grips with IT and computers, let alone Photoshop. Most are quite happy with JPEG and no amount of cajoling will persuade them to take up shooting images in raw, or to print these images out themselves – a huge expense for many nowadays. This reluctance is their own business and, having said all that, I do see many great images from JPEGs.

I retain all my processed raw images – which is a small percentage of the number I shoot – as TIFFS with LZW compression. Failing to compress will rapidly fill your hard drive, so beware! At my camera club, we still have members who labour at producing prints, and maintain their darkroom and presentation skills. Our print evenings are hugely popular, and long may that continue. But in order for that to be so, the costs of inks and paper need to fall. Fifty percent of club member images are presented via digital projection, in our case at full HD 1920x1080. But most clubs still use 1400x1050. You can imagine how much image information and quality is thrown away to reduce a modern digital raw or JPEG to that size. It can be heartbreaking.

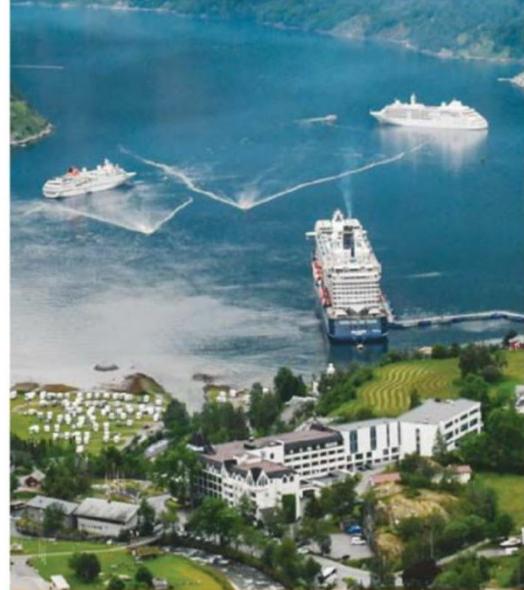
The sad truth is, even Royal Photographic Society panels are not required to be printed by the photographer. It's pay and display. As they say, disaster is led from the front. Raw versus JPEG – it's up to you.

THE VIEWS EXPRESSED IN THIS COLUMN ARE NOT NECESSARILY THOSE OF AMATEUR PHOTOGRAPHER MAGAZINE OR TIME INC. UK

**Ian Peter Douglas** is an amateur enthusiast photographer who is active in Plymstock Camera Club, Plymouth, where both he and his wife Charlotte are committee members. His current photography focuses principally on wildlife, landscapes and creative.

## In next week's issue

On sale Tuesday 18 July



# One remove

Learn the best ways to get rid of those intrusive objects blighting your images



## Golf photography

Top tips from sports photographers on how to get the best shots on the course

## Tamron lens test

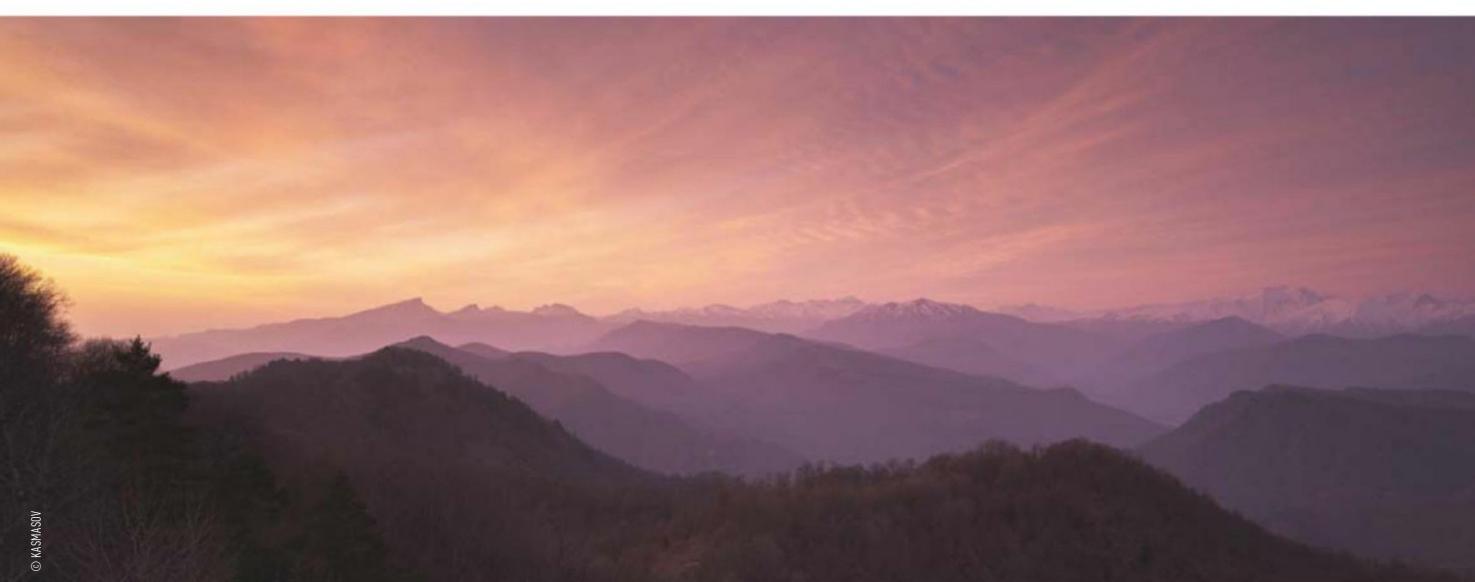
The new superzoom 18-400mm f/3.5-6.3 Di II VC HLD is put through its paces

## Audun Rikardsen

Extraordinary images from this marine biologist and wildlife photographer

CONTINUE FOR NEXT WEEK'S ISSUE PAGE IS SUBJECT TO CHANGE

# Using graduated neutral density filters



**With a little knowhow, a graduated neutral density filter can really transform a run-of-the-mill landscape image**

**O**ne of the biggest problems that landscape photographers face is that the sky is often much brighter than the ground beneath it. This presents an exposure issue, because whatever settings you select, the sky will either be too bright or the ground too dark. Thankfully there is a quick and easy solution – a graduated neutral density filter, often referred to as an ND Grad. Although circular ND Grads are available, most are square or rectangular and are designed to slip into a filter holder that attaches to the end of a lens via an adapter ring. One half of the filter is clear, while the other half is a neutral grey. It's this grey section that does the magic by reducing the amount of light that reaches part of the sensor/film.

ND Grads come in a range of 'strengths' or

densities, depending upon the amount of light that the darker portion cuts out. The most popular filters are 0.6 ND Grads that reduce exposure by 2 stops, but it's worth investing in two or three with differing densities, as it will enable you to cope with a range of situations.

If you have a filter holder with several slots it's also possible to combine filters to achieve greater densities. Using a 0.3 (1 stop) ND Grad and a 0.6 (2 stop) ND Grad together, for example, effectively creates a 0.9 ND Grad giving a 3-stop difference in exposure.

Hard and soft gradations are available, with

hard grads being useful when the horizon has a very defined edge (for example a seascape) and soft grads being useful when the horizon is broken by trees or mountains.

## Getting the exposure right

The first step in using an ND Grad is to take some test shots to see the exposure difference between land and sky. For example, if the land looks great at 1/125sec at f/16, but the sky looks better at 1/500sec and f/16, there's a 2-stop difference and a 0.6 ND Grad is ideal.

Once you've worked out the composition of your landscape, slip the graduated ND filter into the filter holder, keeping the filter's grey section at the top. Look through the viewfinder and push the filter down until the transition between light and dark is aligned with the horizon. Take your time and check that the edges of the filter haven't entered the image frame.

The darker section of the filter effectively reduces the brightness of the sky, bringing its exposure in line with that required for the land. Now set the exposure as you would normally, or use the exposure that worked for the land in your test shot (1/125 at f/16 in our example) and you'll be able to get the landscape looking just right.



A graduated filter can help you achieve detail in the sky and foreground

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# The secret to pin-sharp pictures

When front-to-back sharpness is crucial to your picture, focus stacking can help you to achieve your goal.

Landscape guru **David Clapp** and macro photographer **Johan J Ingles-Le Nobel** share their skills

## KIT LIST



### ▲ Lens scale

Using live view, ensure infinity focus and then reference your lens scale. It is a common occurrence to find that infinity is not marked in the right place.

### DoF charts

Apps like PhotoPills can be used to calculate depth of field. This will help you to better understand the available depth of field at a given aperture and focal length.

### Tripod

It is impossible to undertake a focus stack sequence without mounting your camera on a decent tripod, preferably one with legs that flatten outwards to allow extremely low angles.



**E**ver since I began my photographic journey some 15 years ago I have been battling a technical quest. Since abandoning film photography in 2005, my imagery has always been the synergy of camera and computer, and continues along this path today. It began with exposure blending, when dynamic range was considerably limited, extended into the low-light world of moonlight (when ISO was limited too) and then, in 2011, I entered a world of visual interpretation, beginning a love affair with infrared. The last technical challenge I overcame was focus stacking, a method of extending depth of field beyond the capabilities of my camera optics, but unlike the others listed above, it was comparatively straightforward to master.

It requires thinking around the problem, a multiplicity of identical exposures and some all-important software.

Have you ever taken a dynamic wideangle picture and realised

the foreground isn't as sharp as you would like? As long as infinity is sharp, the critical eye can accept a foreground that comes into focus – it's the way we perceive the world around us. The lenses in our eyes have limited depth of field and if you look around you right now, your brain is overcoming this limitation by focus stacking different focal points and then stitching them together to give you a sense of place. Your eye lenses have a variable depth of field, about f/8 equivalent in brightly lit environments, to f/2 in the dark for a lens around 7mm wide.

### Image assembly

On the other hand, a wideangle lens set to f/16 will render everything sharp from a few feet away, far exceeding our own eyes. So what if you want those extra few feet of foreground in super sharp render? Surely this will compromise sharpness at infinity? What if you want to get closer? How about bracketing different focus zones and stitching them together in software? This is focus stacking, the assembly of images



Seven images have been used to create this composite. The positioning of the tripod was absolutely vital  
CANON EOS 5D MARK II, 24-105MM, 1/250SEC AT F/9, ISO 250

with zones of overlapping sharp focus to create a greater depth of field effect than that achieved with the lens used.

Now imagine a moonlit shoot. With low-light levels, apertures will be restricted to a maximum of f/4 or the camera will underexpose significantly.

Subsequently most night-time shots contain more of the sky for precisely this reason. The idea of a dynamic wideangle image is unthinkable in a single shot, but stack four or five f/4 images together and that f/16-style dream becomes a reality.

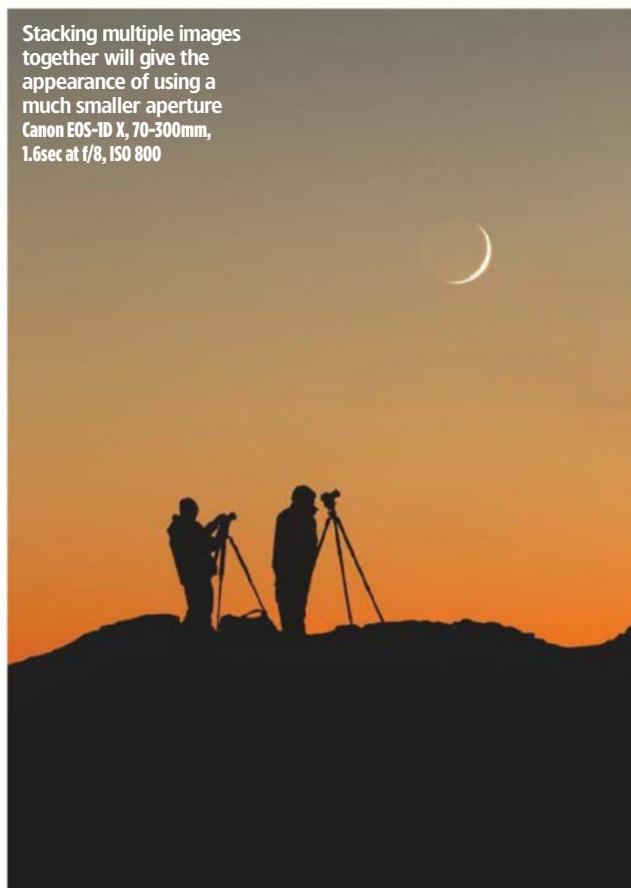
Consider the same focal length issues being overcome at longer focal lengths. A well-composed landscape image can have severe depth-of-field restrictions if the image comprises of near and far elements, with the issue getting progressively worse at the longer end of a 70-200mm lens. This problem can be overcome in exactly the same way, by stacking a number of images together.

### David Clapp

David Clapp is a successful landscape, travel and architectural photographer. A technical specialist, he lectures, contributes to Getty Images, represents Canon UK, leads worldwide photographic tours and runs his own technical workshops, as well as those for premier workshop company Light and Land. For more visit [www.davidclapp.co.uk](http://www.davidclapp.co.uk).



Stacking multiple images together will give the appearance of using a much smaller aperture  
Canon EOS-1D X, 70-300mm,  
1.6sec at f/8, ISO 800



### Your first focus stack

Rather than heading out into complex scenarios for your first focus stack, use the back garden. You will need a tripod set low to the ground with a wideangle lens, set to manual focus, and the camera set to Manual. Set the aperture to f/8 and take a test exposure. The main thing is to know where the focus stack will begin and end, so switch on live view. Now look at the lens scale. If your camera doesn't have one, it's going to be more hit and miss.

Focus the lens at infinity (line up the '∞' symbol with the '-' on your lens scale) and check live view – this is your focus stack starting point. Now zoom in 10x to the bottom of the live view screen and turn the focusing ring until the foreground is sharp. Look at the lens scale again, it will say 0.5m for example – this is your end point. Set the lens back

to the ∞ start point and take your first shot. Move the lens 3-4mm and take a second picture, move another increment, shoot, move, shoot and work your way up to the end point. At f/8 there will be significant overlap of depth of field between shots so you will have a lot to play with.

If you are shooting at f/16, you may only need two images for the stack, the extra one sharpening up the foreground at the expense of infinity. If you are shooting with a medium telephoto like a 24-70mm, you will require more shots at the 70mm end. You will also need to make the increments smaller between shots to ensure overlap. There is no exact science to this, but it's better to have more overlap.

When working at night, using a wideangle lens with very shallow depth of field, the increments will be a few mm with as many as 12 shots to get the foreground sharp.

Turn over for our step-by-step guide to focus stacking using Helicon Focus.

# Step-by-step: Focus stacking

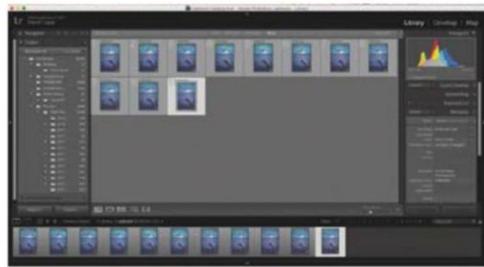
## Using Helicon Focus

The effort lies in the careful assembly of the images on location. The software, available from [www.heliconsoft.com](http://www.heliconsoft.com), makes easy work of the render, but just like panoramic stitching, there must be a generous overlap between each shot. This

composite (right) consists of 12 images taken at f/2.8, a total of six to seven minutes' exposure, so choosing the right moment was crucial. I began when the clouds and aurora were in the right place. It's a classic image of Kirkjufell mountain in Iceland.

This composite of Iceland's Kirkjufell mountain consists of 12 images taken at f/2.8, combined using Helicon Focus

Canon EOS-1D X, 24mm, 30secs at f/2.8, ISO 3200



### 1 Synchronise settings

First, make sure that you have your stack of images selected in your raw processor and work on the first image in the sequence. Lift the levels, make any corrections you need to and then synchronise the settings across to the other images in the stack. This step is important as it will ensure uniformity and help your focus stack to appear seamless.



### 2 Open files in Helicon Focus

Export your files as 16bit TIFFs and open them in Helicon Focus. This software has a few tabulated stages. You will be working in 'Rendering' and 'Retouching', finally saving the images as TIFFs for tweaks in Photoshop. Ensure that all of the images to render are highlighted with tick boxes (it should do this automatically on import) then hit Render. I chose method C for a deep stack.



### 3 Use the Retouching tab

You can see clearly that the software has made a superb start, but it has tried to render the sky from the out-of-focus images and made a mess of it. This is normal. I then use the Retouching tab to paste data from the first image, the infinity image, into the sky area.



### 4 Clone the sky

Highlight the first image in the list, the infinity image. You will notice that the image displayed on the left is the source, and the one on the right is the rendered focus stack. Just swipe the brush over the sky to clone the sky. It's an easy fix.



### 5 Check for errors

Now check the image for other errors. These are usually small zones where the computer has made a mistake as to which source image to render from. Choose the appropriate in-focus image from the list, then use the brush and clone the data.



### 6 Finalise in Photoshop

Finalise the image in Photoshop, leaving Helicon Focus open. Make a detailed pass over the picture at 100% magnification and ensure that there are no rendering errors. If there are, return and fix before rendering again.



ALL PICTURES © DAVID CLAPP



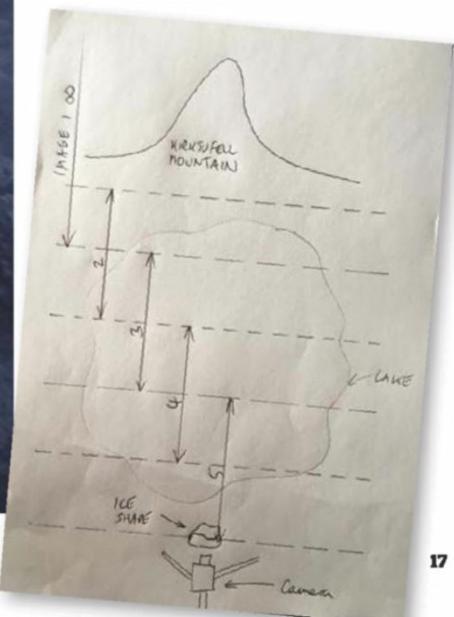
**Focus on mountain**



**Focus on frozen ice**

### Focus stacking diagram

As with stitching panoramas, overlap is key to the assembly of the focus stack. Many people make the mistake of not allowing enough overlap and then make a critical error, having an area in the centre of the shot that does not overlap. The issue forces retouching and cloning of other areas not in the same focal zone. When working at very narrow apertures, make tiny incremental turns to the focusing ring. Use this rule when working with long focal lengths, even at apertures like f/11, as there is little depth of field available over 100mm.



# Technique FOCUS STACKING

## KIT LIST

### Tripod

If you're stacking outside, mount your stage on a tripod to ensure stability throughout the stack sequence.



### Focus stacking stage

There's a range of options, from relatively cheap eBay imports to precision electronic stages.



### Extreme macro lens

You can start out with a Raynox on a standard kit 50-200mm zoom, but as you venture into greater magnification, you may find yourself buying enlarger lenses on eBay or high-end Mitutoyo objectives.



### Lighting

You're likely to want to supplement natural light with flash or some form of continuous lighting.



### Software

There is a range of free software out there that will perform stacking, but for professional-looking results, Zerene Stacker or Helicon Focus can't be beaten.



### Johan J Ingles-Le Nobel

Johan J Ingles-Le Nobel is a Pentax Ambassador and macro specialist. He is the author of [extreme-macro.co.uk](http://extreme-macro.co.uk), which features detailed focus stacking tutorials, macro calculators and equipment reviews. Johan also offers full and half-day focus stacking and extreme macro workshops. For more information visit [www.extreme-macro.co.uk](http://www.extreme-macro.co.uk).

**F**ocus stacking is a photo technique that involves combining sharp, in-focus elements of a number of pictures, to produce one composite image. This composite has far more elements in focus than would be possible in a single frame, regardless of the depth of field used for that frame. Focus stacking is a relatively new technique and is possible only because of digital photography: trying to combine the parts of several dozen negatives in the darkroom would not be practical.

Focus stacking has various applications, but it is one of the main up-and-coming techniques in macro photography. Macro photography has one especially notorious challenge, and that is the remarkably limited depth of field that photographers have to contend with. Even at relatively generous f-stops, such as f/22, depth of field is measured in millimetres or fractions of a millimetre, and that's no good when you're trying to obtain a tack-sharp shot of a subject just millimetres long. Some people might be tempted to suggest using an even more generous f-stop, such as f/96, but unfortunately the laws of physics work against this – 'diffraction softening' actually makes a shot at f/96 demonstrably softer than the same shot taken at f/22.

There are two main requirements for focus stacking: the actual sequence of shots – of the same subject at the same scale from the same direction but at different points of focus – and a digital means to combine the series, and create the final stacked image.

### Preparing to shoot

Shooting a subject at the same scale from the same direction but at different points of focus requires an extremely steady hand, and while it is possible to do so handheld, by and large the overwhelming majority of people use a tripod and stage (for outside shots) or a custom-built stacking rig (for studio shots). A stage can be something as straightforward as a Velbon stage, although most macro stackers use apparatus that can give smaller incremental steps, or a precision electronic focus stage that can give micron focus steps (1/1000mm).

Lighting these small images is a separate challenge on its own, with both flash and continuous lighting being suitable. However, to obtain the highest-quality focus-stacking images, research into effective diffusion of flash and continuous light is highly recommended. Just as flash diffusion is a Holy Grail for macro photographers of all genres, much the same is true of focus stackers.



This composite of two greenbottle flies is a stack of 121 images Pentax K-7, Schneider Kreuznach Componon 35mm f/4 enlarger lens reversed on flat bellows at f/5.6, 1sec, ISO 100, three flashes

ALL PICTURES © JOHAN J INGLES-LE NOBEL

In terms of the actual camera apparatus, just about any DSLR will be absolutely fine for basic focus stacking, as long as you can equip it with the appropriate optics. Macro lenses with a 1:1 ratio are a reasonable starting point, but you will find that when you delve into more extreme macro magnifications such as 1:1 to 10:1, off-the-shelf macro lenses aren't really up to the job. That is, unless you are lucky enough to own a Canon, in which case the MP-E 65mm f/2.8 1-5x Macro Photo is the single best lens you can purchase for extreme macro, giving you a range of 1:1 to 5:1.

That said, if you don't own a Canon, don't despair: there are all sorts of other relatively low-budget optical options available, many of which are covered on my website ([www.extreme-macro.co.uk](http://www.extreme-macro.co.uk)). And, with the glut of phenomenal quality darkroom lenses available on eBay, plenty of outstanding optics

The final sawfly composite consists of 213 images, and took eight hours to complete  
Pentax K-7, Schneider Kreuznach Componon  
35mm f/4 enlarger lens reversed on flat  
bellows at f/5.6, 0.8sec, ISO 100



Finished stack

are available, from the JML 21mm f/3.5 to the Componon darkroom lenses, and the use of a 10x microscope objective.

#### Choosing software

Lastly, software. There is free software such as Picolay, ImageJ, Hugin Tools and the older CombineZP, but most stackers use one of two professional focus-stacking packages: Zerene Stacker or Helicon Focus. Both packages give spectacular results in the right hands, and have a variety of editions aimed at amateur and professional users, but there are more third-party add-ons developed for Zerene Stacker and the majority of high-end stacking is completed using Zerene. Photoshop should also be mentioned as it has some limited in-built stacking functionality that will at least give you a flavour of stacking before you purchase custom stacking software.

While focus stacking for macro photography is becoming more and more mainstream, focus stacking is not the answer to everything, nor is it appropriate for every situation. Stackers need to move through planes of focus in a series of shots, and the specimen needs to be stationary. A full stack run can either be slow (i.e. manually incrementing a focus stage to take a shot every few seconds), or fast (filming a sequence moving through the planes of focus, then extracting individual frames from that film to stack them). Needless to say, an insect that's buzzing about in the heat of the day rarely affords the dedicated macro photographer the opportunity to take a leisurely stack of images. Until technology advances enough to give us better options to shoot a rapid stack, single-shot macro at a high aperture is still the unavoidable norm for many an outdoor situation.

## Sawfly focus stack

Sawflies are considered a pest, so the green-fingered among you probably recognise this insect as the bane of your life! This stack took about eight hours to complete, but it was worth the effort. The first picture (below) shows the single image while the second (above) shows the completed stack. The images were shot using a Pentax K-7, rear-curtain sync flash, and an exposure of 0.8sec. The final stack comprises 213 shots, output into 27 substacks (you can watch tutorials on substack slabbing on the web), retouched from a Dmap composite. The image was finished off with Photoshop, NoiseNinja and Topaz Detail.



Single image

# In an instant

The magic of **Polaroid** is as spellbinding now as ever. **John Wade** looks at its history and considers some of the brand's most significant cameras

**H**ave you ever wondered why instant-picture cameras are called Polaroids? The story starts in 1926 when 17-year-old Harvard University student Edwin Land was walking along Broadway in New York City. Dazzled by the headlamps of passing cars, he wondered how polarising materials might be used to reduce the glare for drivers. Taking leave from university, he began his research. Within two years, he had found a method of producing flat sheets of polarising material.

Land returned to Harvard but finally left in 1932 without taking his degree. (The university later

**With its operator and giant print, one of three 20x24in instant cameras made for peel-apart film**

awarded him his honorary doctorate of science.) He set up a company for optical research and the production of polarising material, and within five years, the company had become the Polaroid Corporation, from whence came the name of the cameras that followed.

There is a story that might be apocryphal, but which is probably grounded in fact, that one day in 1943, Land was photographing his young daughter, who expressed surprise that she couldn't see the photograph immediately after it had been taken. That led him to begin thinking about instant photography. Four years of research later, Land announced his process to the Optical Society of America. The first instant picture camera went on sale in 1948.

#### Twin paper rolls

Early Polaroid cameras used twin rolls of sensitised paper connected by a leader. The rolls were dropped into chambers at opposite ends of the body with the leader threaded between rollers and out of the back.

One of the papers faced the lens. After exposure, the leader was pulled, causing the exposed paper negative from one spool and the sensitised printing paper from the other to come into contact.

Chemical pods of a one-solution developer and fixer burst under pressure from the rollers, spreading the solution between the two layers.

The negative developed first. Then the unused silver salts were converted to a soluble solution and diffused through to the print paper, producing a positive sepia image, which was then removed through a door in the camera back after one minute.

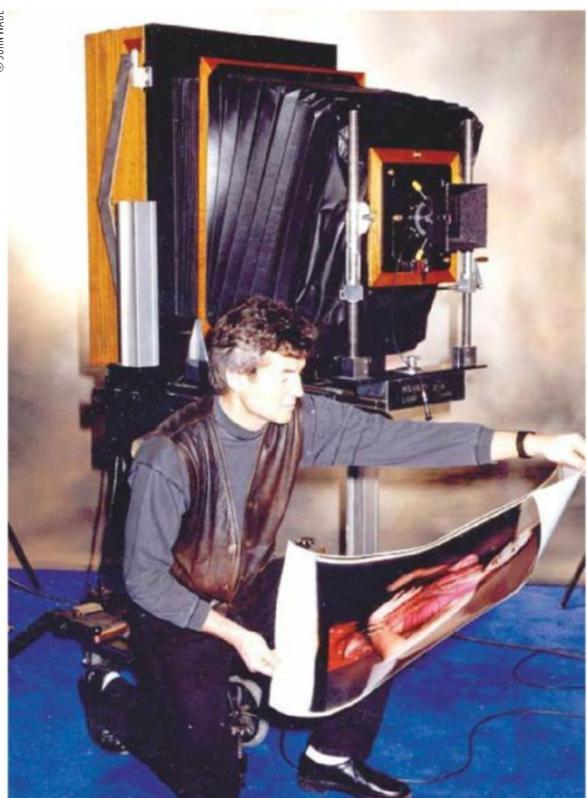
Land's process impressed renowned landscape photographer and environmentalist Ansel Adams. He met Land at an optics conference in 1949, where Land photographed him with an instant camera. Adams soon became a Polaroid consultant, helping to test new cameras and films.

In the coming years, an artists' liaison programme gradually grew, involving artists and photographers who donated prints in return for materials and access to the latest Polaroid technology. Participants included Minor White, André Kertész, Walker Evans, Robert Mapplethorpe, Andy Warhol and David Hockney.

#### The birth of peel-apart

In 1963, Polaroid launched a camera called the Automatic 100, the first to use peel-apart film, which was sold in flat packs. After exposure, a sandwich of two layers was pulled from the pack in the camera, activating chemical processing pods as it passed through rollers. One layer developed as a negative and transferred its image as a positive on the second layer. After 60 seconds the two were peeled apart, and the negative discarded, leaving a positive print.

Peel-apart film was versatile and prolific. It was sold in sizes from  $2\frac{1}{4} \times 3\frac{1}{4}$  in up to 10x8 in, and three giant cameras were even built to take 20x24 in instant pictures (see left). In the more common sizes,



© JOHN WADE





© TIMOTHYWHITE

there were versions for colour and monochrome, plus one type that produced an instant black & white positive print, together with an instant large-format negative for use in any darkroom.

Ansel Adams was a huge fan of this latter type. In his autobiography, he wrote, 'One look at the tonal quality of the print I have achieved should convince the

**Above:** Timothy White, Untitled, 1998, inkjet print from positive/negative film Type 665

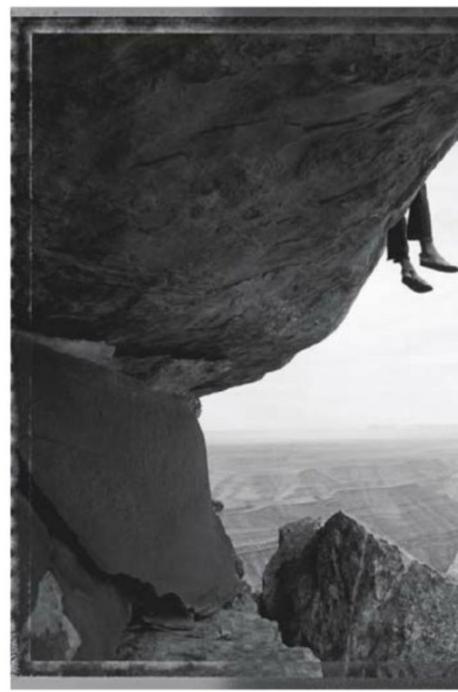
uninitiated of the truly superior quality of Polaroid film.'

His view was shared in the 1980s when Polaroid ran a Student Photography Competition and Exhibition that attracted vast numbers of entries from students eager to push the boundaries of instant film use.

Peel-apart film endured, along with newer Polaroid



The twin paper rolls that were at the heart of early instant photography



processes, until the end of the Polaroid era. Professional photographers used it in backs attached to medium- and large-format cameras to check lighting, composition and exposure before commitment to conventional film.

In 1972, Polaroid announced a camera that automatically ejected a colour print in a white mount as the exposure was made. It developed in normal room lighting in around one minute. This was the SX-70 system.

The film comprised a multi-layered negative and a transparent receiving layer. As the print was

**Above:** Guy Bourdin  
'Charles Jourdan'  
1978, C-Print on  
Fujiflex paper

**Above right:**  
Mark Klett,  
'Contemplating the  
view at Muley Point,  
Utah' 1994, gelatin  
silver print from  
Polaroid positive/  
negative 4x5 film  
Type 55

**Below:** Polaroid  
founder Edwin Land

pushed out of the front of the body through rollers, pods of chemicals were broken, to mix the processing agent with white titanium oxide and a dense black dye, which spread between the two layers. The black dye masked the negative layer, which then developed in the dark. The black dye became transparent as the development process progressed and coloured dyes were then released from the negative layers to meet the receiving layer, where they were seen against the white titanium-oxide layer. The result was a positive colour image.

Artist David Hockney was among those who took up SX-70 as an art form. One of his projects was a composite picture made up of 63 separate SX-70 prints, which he shot in 1982. In 2010 it sold at auction for \$194,500.

The following instant-picture processes worked on a similar principle to SX-70, ejecting an instant colour print from the body. The 600 Series launched in 1981 set a new style of camera and film, four times faster than SX-70, with enhanced colour saturation. The Image System that followed in 1986 improved usability and quality even more with a different style of camera and a larger instant print.

Meanwhile, Polaroid had also been experimenting with instant movies, and Polavision came to the market in 1977. The camera accepted a cartridge of instant film which, after shooting, slotted into the Polavision viewer. Processing took place as the film was



automatically rewound to its starting point, using chemicals stored in a tank in the centre of the cartridge. The image was too dense for normal projection, but on the viewer's large built-in screen, it was bright enough for viewing in normal lighting.

Polavision enjoyed scant success, but its technology lived on in the 35mm instant slide film introduced in 1982. Contained in standard cassettes, the colour or black & white Polaroid film could be used in any 35mm camera, then automatically processed after exposure in daylight.

### The beginning of the end

In the late 1990s, Chinese-manufactured cameras such as the Joycam and I-Zone were launched, aimed at the consumer market. They bore little resemblance to their innovative predecessors, and were not enough to save the company.

On 11 October 2001, Polaroid filed for bankruptcy. For a while, business





# The cameras

A selection of the landmark cameras and innovative features that made **Polaroid** influential



## 1948 Model 95

The first viable instant-picture camera had a bed that opened on hinges, from which the lens panel extended on bellows. The panel moved backwards and forwards for focusing, and a release at its base made the exposure.

The camera offered apertures of f/11-f/45 and shutter speeds of 1/8-1/60sec, controlled by a single thumbwheel set into the lens panel. Turning this gave speed and aperture combinations designated by numbers – from 1, which gave 1/8sec at f/11 – to 8, which gave 1/60sec at f/45.

## 1963 Automatic 100

The first camera to use peel-apart film was also the world's first with an electronic shutter coupled to an automatic exposure system. As the first shutter blade opened, a transistorised exposure system began measuring light through the lens, while an electromagnet held back the second blade. When sufficient light was judged for correct exposure, the current was cut to the magnet and the second shutter blade closed. A lighten/darken control was added for fine-tuning.



## 1961 Electric Eye 850

Automatic exposure was offered on Polaroid instant rollfilm cameras for the first time in 1960, with the introduction of the Electric Eye 900. The 850, launched a year later, added a coupled rangefinder. Auto exposure was courtesy of a cadmium sulphide cell that measured light, then selected and set shutter speeds and apertures on a range between 1/2-1/600sec and f/8.8-f/82.



## 1965 Swinger

One of Polaroid's most successful cameras was also one of its simplest. Made of white plastic, it took the first rollfilm to develop outside the camera. The photographer looked through the viewfinder, twisted a red knob until the word 'yes' appeared, controlled by a built-in extinction meter, then pressed the white tip of the knob to take the picture. Next, a blue button was pressed and the film pulled from the side of the camera, torn off and peeled to reveal the picture. Flashbulbs were inserted behind a small diffuser.



## 1971 Big Shot

Specially designed for portraiture, the Big Shot used peel-apart film with a lens that was fix focused at one metre. A rangefinder, fixed at the same distance, told the photographer when the camera was the correct distance from the subject. A flashgun was built in, with a bulb behind a diffuser to soften the light.

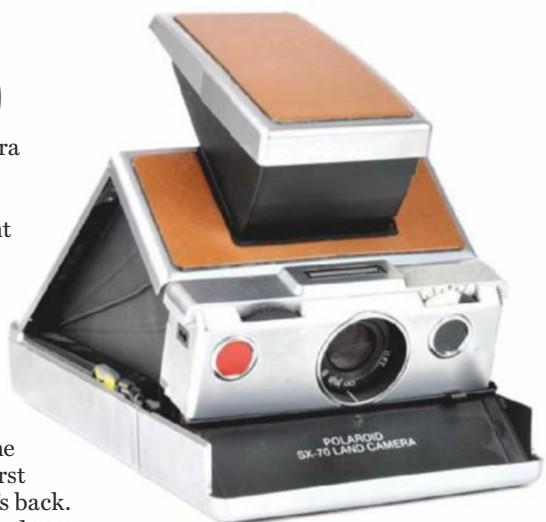


## 1977 Polavision

The Polavision camera, made by Eumig in Austria, was basic compared to other cine cameras of the time. The ISO 40 Polaroid film was in a cartridge that slotted into the camera. It held enough for around two-and-a-half minutes of filming. The camera was electrically driven, at 18 frames per second. The lens, which had two focusing positions for under and over 15ft, was a Polaroid 12.5–24mm f/1.8 manually operated zoom. It fed a reflex viewfinder.

## 1972 SX-70

The first SX-70 camera model was a folding single lens reflex. Before exposure, light travelled through the lens to a mirror on the sloping back of the camera, down to another mirror on top of the film pack that lay horizontally flat in the base, back onto the first mirror in the camera's back. The light then travelled to a curved mirror in the back of the viewfinder and on to the front of the viewfinder and through its eyepiece. As the exposure was made, the mirror in the base of the camera covering the film pack swung up to cover the mirror in



the camera's sloping back. Yet another mirror on the back of this then reflected light down to the film, and a motor cut in to eject the print. A battery contained in each film back powered all the electronic functions.



## 1978 SX-70 Sonar Autofocus

The world's first autofocus single lens reflex was based on the original SX-70 camera. It incorporated a device above the lens that emitted sound waves, inaudible to the human ear. Based on the time it took for the sound to bounce off the subject and back to the camera's receptor, the distance was estimated and the lens automatically focused. The information also controlled the strength of the electronic flash.



## 1978 600 SE

Produced by Polaroid in collaboration with Mamiya in Japan, the 600 SE was aimed at professional photographers. It took peel-apart film and used Mamiya standard 127mm, wideangle 75mm and telephoto 150mm lenses.





## 1981 Polaroid 660

This was one of the cameras that launched Polaroid 600 Series films. At the heart of the new-look cameras was a flashgun which folded up from its position as a lens protector, designed to fire indoors and outdoors to automate fill-in flash. Outdoors, exposure was adjusted to allow for 25% against

75% natural light to fill shadows. As ambient light levels dropped, so the percentage changed until the flash gave 100% of the required light. The 600 Series cameras were made in many styles, including talking cameras and another styled to resemble children's cartoon character Taz, the Tasmanian Devil.

## 1982 SLR 680

Probably the best 600 Series camera, this one folded like the SX-70, featured Polaroid's sonar autofocus system, had a built-in flashgun with auto exposure and, of course, ejected a print to develop outside the camera in about a minute.



## 1988 ProPack

Proving that peel-apart photography was still going strong 25 years after its launch, the ProPack produced instant monochrome and colour prints, plus positive prints with reusable negatives. It featured automatic exposure control and a built-in digital timer to measure development times. Flashcubes fitted behind a diffuser on the side, and a lighten/darken control could fine-tune the auto exposure.



## 1986 Image System

The launch of the Image System introduced a new shape of non-reflex camera and a larger instant print. The camera unfolded into a wedge shape. Exposure and focus were automatic, but could be over-ridden from a panel on the back of the body. The camera featured a small built-in flashgun that fired automatically when light levels demanded it.



## 1999 I-Zone

Aimed at the fun end of the market, particularly towards children, the I-Zone shot six small pictures to a film, which ran along the base of the body, receiving its image from the lens via a sloping mirror. Three pictograms indicated apertures. The instant print was tugged manually from the camera after

each exposure. Launched only a few years before Polaroid filed for bankruptcy, the I-Zone and other similar cameras failed to stem the onslaught of digital photography. Despite the Polaroid name living on in a different environment, cameras such as the I-Zone marked the end of the legend.



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# Amateur Photographer of the Year

Here are the top 30 images uploaded to Photocrowd from Round Two, **Hit the Streets**, with comments by top pro Matt Hart and the AP team



**1st**

## Round Two **Street** photography

MARCO Tagliarino from India is the winner of Round Two of APOY 2017. He takes home a Sigma dp2 Quattro and VF-41 viewfinder. Sigma has rethought and redesigned every aspect of the dp2 Quattro camera including the sensor, engine, lens and body. While retaining its famous detail rendition, the updated Foveon direct image sensor produces images that are richer, deeper and more faithful than ever. Complementing the Sigma dp2 Quattro's LCD screen, the VF-41 is an optical external finder that attaches to the camera via its hotshoe.



That's a total prize value of £1,099.98.

**1 Marco Tagliarino India 50pts**  
Canon EOS 60D, 24-105mm, 1/25sec at f/6.3, ISO 100

'It's always interesting to see the diverse images that are entered into photography competitions. I love the little details in this winning image, things like the sandals on the little shelf. It's a great story with a good use of colour. I wonder how many customers this guy has each day. It's also great to see the photographer kept it real and was not tempted to clone out all the rubbish. A massive well done and a hearty congratulations to you, Marco. The image is a more than worthy winner for APOY Round Two.'

**Matt Hart, guest judge**



2nd

**2 Manish Jaisi India 49pts**

Canon EOS 600D, 18-55mm, 1/250sec at f/5, ISO 400

'I really like the layers and story within a story in this image by Manish Jaisi, which takes second place in APOY Round Two. You have the main character and then the incredible explosion of birds adding a new dimension to the image and filling the frame. I also really love the colour tones and simple processing.'

**Matt Hart, guest judge**



4th

**4 Henning S Pettersen**

**Norway 47pts**

Nikon Coolpix A, 18.5mm, 1/320sec at f/9, ISO 100

This image is a real masterclass in the benefits of exposing for the highlights. So much street photography relies on strong light and deep, dark shadows. Exposing for the highlights has thrown our human subjects into silhouette, leaving us with an image that both Alex Webb and Harry Gruyaert would be happy to put in their portfolios. This is a shot to be truly proud of.



3rd

**3 Agnieszka Maruszczyk**  
**Poland 48pts**

Nikon D750, 24-70mm, 1/250sec at f/10, ISO 250

'This is an image with a masterful approach to colour, light and compositional depth. It's a shot that demonstrates what can be done with colour tones and layers. I love the fact that the ball has been thrown at the wall by the guy at the back, but it looks like the guy at the front has thrown the shadow at the viewer. It adds that great extra dimension.' **Matt Hart, guest judge**

**5 Kenny Gordon Glasgow 46pts**

Nikon D800, 24-70mm, 1/20sec at f/5.6, ISO 100

In this image we see how the confluence of subjects can lead to dynamic and witty street photography. The old woman, as she slowly makes her way up the incline, contrasts beautifully with the graffiti that waits ahead of her. Converting the photograph to black & white was a good choice. It really brings out the textures and forms of the scene.

5th





6

6 Sivapoom Yamasaki Thailand 45pts

Nikon D800, 24-70mm, 1/20sec at f/5.6, ISO 100

Many would have chosen to shoot head-on, but here the photographer has found an overhead vantage point and rendered the scene as an abstract array of forms.



10

10 Marzena Rej-Brodowska  
Poland 41pts

Nikon D750, 35mm, 1/400sec at f/2.8, ISO 160

The subtle desaturation does so much to bring this scene to life. There's a good lesson here – sometimes subtracting from a scene goes a long way.

14 Tony Sellen London 37pts

Nikon D810, 50mm, 1/640sec at f/8, ISO 100

We saw an example of this photographer's work in Round One. (in fact, it's the same location). However, Tony has managed to draw out another unique image.



14



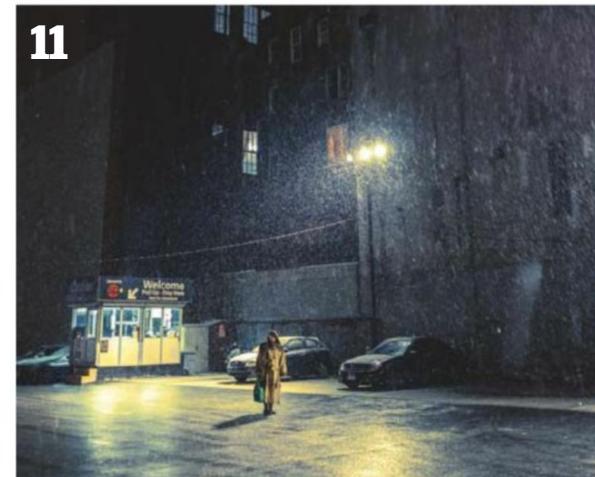
7

7 Matt Garbutt London 44pts

Nikon D750, 70-200mm, 1/640sec at f/8, ISO 500

This is the best of its genre. It contains all the key elements – location, light and shadow, subject and black & white.

11



11 Michele Palazzo USA 40pts

Fujifilm X-T2, 23mm, 1/60sec at f/2, ISO 5000

What an image! It's just so intensely cinematic in its atmosphere. This is a great slant on street photography.

15 Dominic Papa New Zealand 36pts

Leica Q, 28mm, 1/800sec at f/5.6, ISO 100

What at first appears to be a chaotic scene, slowly reveals itself to be a studied approach to shape, light and colour.

15



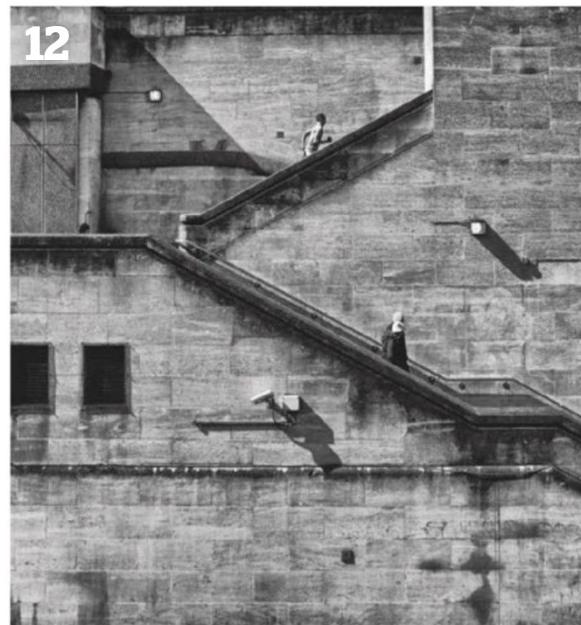


**Henrik Spranz**  
**Austria 43pts**

Panasonic Lumix DMC-GX1,  
14-42mm, 13secs at f/6.3, ISO160

This is almost a scene  
that seems to be waiting  
for its performers to  
appear. It's such a silent  
and lonely image.

**8**



**12 Simon Hadleigh-Sparks London 39pts**

Canon EOS 5D Mark III, 24mm, 1/250sec at f/16, ISO 400

A beautiful formalist approach. An image of graphic elements  
and textures brought to life by the black & white conversion.

**Desislava Ignatova**

**Bulgaria 42pts**

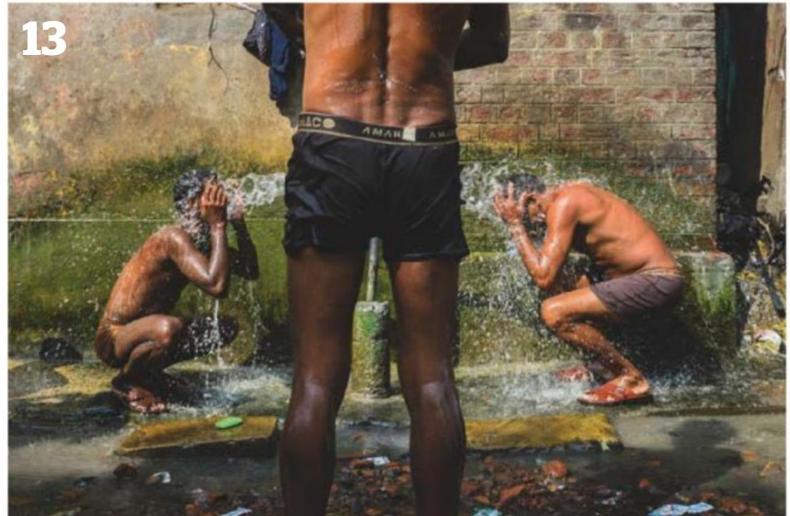
Nikon D7000, 70-300mm,  
1/50sec at f/8, ISO125

This is an image of mood,  
drama and atmosphere.  
You can almost feel the  
cold and damp against  
your skin, and hear the  
wind howling through  
the streets.



**9**

**13**



**13 Saumalya Ghosh**

**India 38pts**

Nikon D610, 24-70mm, 1/400sec at f/10, ISO 500

An unconventional approach to  
composition pays dividends in this shot,  
and leaves us with an image that has a  
rather tongue-in-cheek element that  
you can perhaps work out for yourself.

**16 Ata Mohammad Adnan**

**Bangladesh 35pts**

Nikon D700, 35mm, 1/500sec at f/3.2, ISO 200

This image of a train in India is brilliantly  
timed with the feet just poking out and  
the man squashed within the window  
frame. The two pale lines really hold  
the whole image together.



**16**



17

**17** Pinki Biswas Sanyal India 34pts

Nikon D750, 24mm, 1/4000sec at f/8, ISO1250

Here we see an example of timing, composition and subject. The clouds look almost as if they are being thrown into the air from the fabric. There's much to enjoy in the background too, particularly the woman with her arms in the air.



21

**21** Sydney Harding London 30pts

Nikon D300, 18-105mm, 1/125sec at f/7.1, ISO 200

Rule number one of street photography: keep your eyes peeled at all times. When you become open to your surroundings you find gems like this.

**28** Sara Spain 23pts

Canon EOS 5D Mark II, 50mm, 1/400sec at f/2, ISO 800

The use of available light from nearby shops and stalls in this square in Marrakech, Morocco, is excellent. The little girl on the shoulders of, presumably, a family member, is beautifully lit, while the surrounding crowd is plunged into shadows.



18

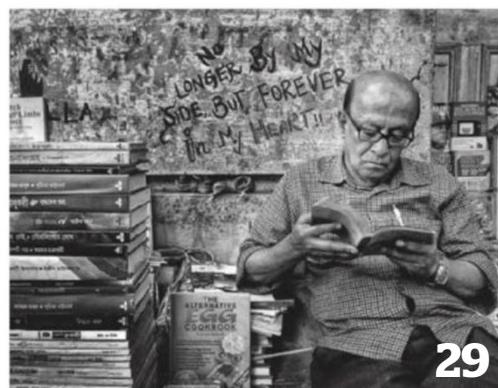
**18** Orlinski Poland 33pts

Exposure unknown

This image is so good it speaks for itself – perfectly framed, composed and exposed. The snow is a beautiful element. While many of us would have photographed the subjects from the front, the photographer has chosen another view.



22

**22** Thet Win Aung

Myanmar 29pts

Exposure unknown

Street photography and documentary combine in this beautifully executed black & white image.

**25** John Grace London 26pts

Nikon D500, 35mm, 1/250sec at f/5.6, ISO100

The young men are so focused on the game that the photographer has gone unnoticed and given the image a sense of timelessness and true documentary spirit.

**29** Subhashis Halder India 22pts

Motorola Moto E2, 2.47mm, 1/30sec at f/2.2, ISO 80

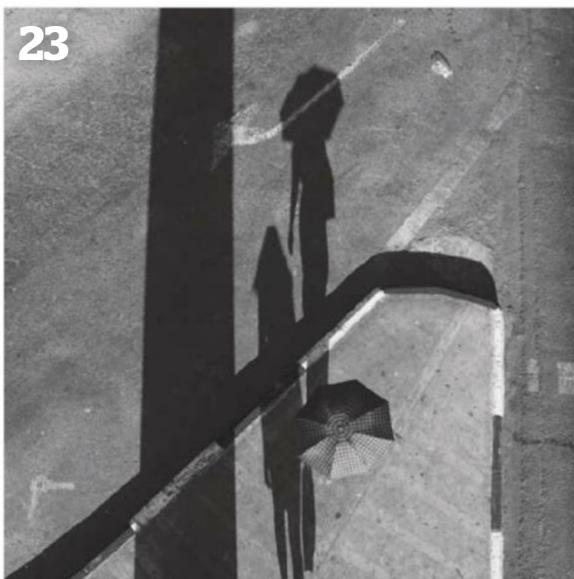
This is what street photography is all about – capturing those moments that usually pass us by.



19

**19** Sydney  
Harding  
**London** 32pts  
Nikon D80,  
28-200mm, 1/20sec  
at f/5.6, ISO 400

London's Southbank is a hotbed for great street images. Here we see how colours and unusual details can really make a scene work.



23

**23** Myo  
Thar Khin  
**Myanmar** 28pts  
Canon EOS 80D,  
18-135mm, 1/500sec  
at f/3.5, ISO 100

One of the greatest times of day to shoot is in the early evening when the sun is throwing great raking shadows across the scene.



26 Patrick Italy 25pts

Nikon D7100, 10-20mm, 1/400sec at f/7.1, ISO 640

The young couple have been placed centrally in the frame, which works well as the splash of blue catches your attention.



30 Laura Hacking Manchester 21pts

Fujifilm X-T1, 16-55mm, 1/125sec at f/8, ISO 1000

The monochrome conversion enhances the scene and adds great contrast, lifting the tones and texture.



20

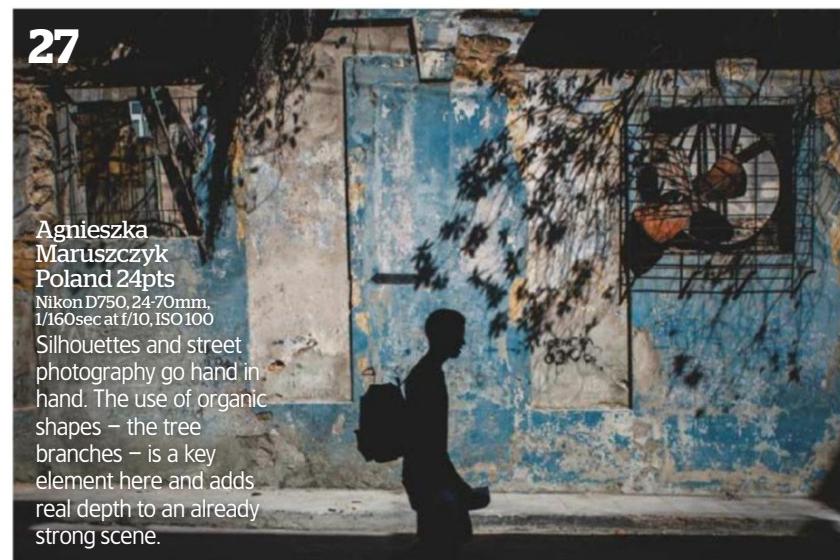
**20** Dominic Beaven **Greater London** 31pts  
Canon EOS 5D Mark III, 24-70mm, 1/2500sec at f/5.6, ISO 400

If we didn't know this was taken at an art installation, we would have assumed it was taken during a riot.



**24** Marco Tagliarino **Italy** 27pts  
Canon EOS 6D, 70-200mm, 1/500sec at f/2.8, ISO 320

This portrait of Burmese workers feels full of life and energy; their smiling faces immediately draw you in.



27

**Agneszka**  
Maruszczyk  
**Poland** 24pts  
Nikon D750, 24-70mm,  
1/160sec at f/10, ISO 100

Silhouettes and street photography go hand in hand. The use of organic shapes – the tree branches – is a key element here and adds real depth to an already strong scene.

## The 2017 leaderboard

It's still early days in APOY 2017, but again it's good to see that there is a wide range of countries represented. In Round Two we find Marco Tagliarino in first place with 101 points. In second place is Simon Hadleigh-Sparks with 82 points and in third place is Agnieszka Maruszczyk with 72 points.

<b>1</b>	Marco Tagliarino	101pts	<b>6</b>	Sydney Harding	62pts
<b>2</b>	Simon Hadleigh-Sparks	82pts	<b>7</b>	Sujan Sarkar	50pts
<b>3</b>	Agnieszka Maruszczyk	72pts	<b>8</b>	Heather Allen	49pts
<b>4</b>	Tony Sellen	69pts	<b>8</b>	Manish Jaisi	49pts
<b>5</b>	Ata Mohammad Adnan	68pts	<b>10</b>	Somraj Sahu	48pts

To enter and find details of the upcoming rounds of APOY 2017 visit [www.amateurphotographer.co.uk/apoy](http://www.amateurphotographer.co.uk/apoy) and click Enter Now

# Lightroom tips

## for using Presets

Presets, or pre-determined Lightroom settings, create a stylish look and speed up your editing. **James Paterson** is your guide



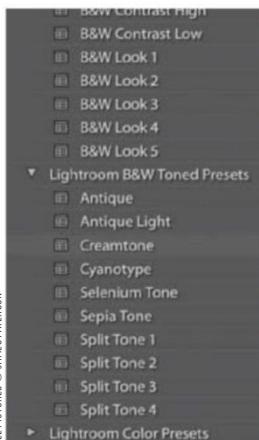
### James Paterson

James Paterson is as skilled a photo editor as he is a photographer. His work has appeared in countless magazines and books, and in 2014 he was appointed editor of *Practical Photoshop* magazine. His subjects range from portraits to landscapes, architecture and underwater scenes. For James, Photoshop is more than just a work tool. Visit [www.patersonphotos.com](http://www.patersonphotos.com).



### 1 What are presets?

Sometimes referred to as 'recipes' for your photos, presets are simply saved settings – like this Creamtone effect – that can be used on any image with a single click. They can save you time and speed up monotonous tasks. With presets, you only have to do something once, then automate it forever after.



Presets like this Creamtone effect can be applied with a single click



### 2 The Preset Panel

This panel sits to the left of the Develop Module. It's the control centre for your presets. It's where they are stored, accessed, organised, updated and added to. As you hover over any preset, the Navigator panel above changes to show a preview.



### 3 Speed up any task

Presets are most often thought of as a means to create a certain tonal look, like a black & white effect. Keep in mind that presets can be used to carry out absolutely any task, and it's the dull jobs like sharpening, lens correction and noise reduction that can be the most satisfying to automate.

### 4 Preset paradise

Rather than the pixel-altering way Photoshop works, Lightroom changes how the image is displayed in the program. Pixels are altered on export, so because edits exist apart from the photo, it's easy to copy them from one image to another as a preset.

### 5 How to install presets

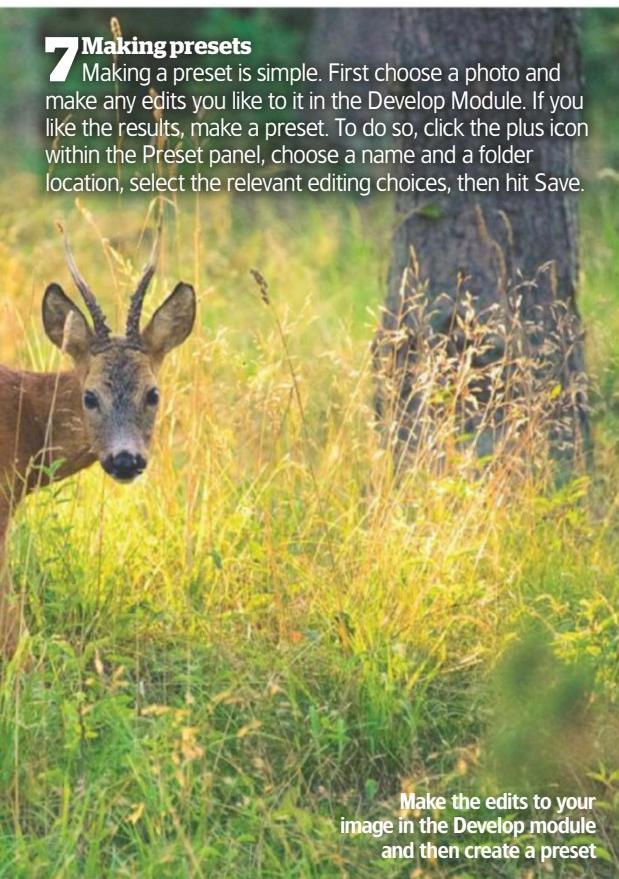
To install a preset go to Edit>Preferences (Windows) or Lightroom>Preferences (Mac). Within the Presets tab click 'Show Lightroom Presets folder'. Now copy the downloaded presets into the 'Develop Presets' folder and restart Lightroom. To add to an existing preset folder, right-click it and 'Import'.

## 6 Download free collections

There are thousands of preset collections available online; some are free while others charge. A good place to start looking for them is [www.presetsheaven.com](http://www.presetsheaven.com), a forum site that offers hundreds of free sets. It's also worth checking out [www.presetlove.com](http://www.presetlove.com) and [www.presetpond.com](http://www.presetpond.com), which both have extensive collections. I'm also a big fan of the Lightroom presets at [www.on1.com](http://www.on1.com). Among these you'll find effects like traditional colour toning or monochrome that mimic the grain of old film stocks. There are also downloadable presets that work in combination with the selective adjustment tools.

## 7 Making presets

Making a preset is simple. First choose a photo and make any edits you like to it in the Develop Module. If you like the results, make a preset. To do so, click the plus icon within the Preset panel, choose a name and a folder location, select the relevant editing choices, then hit Save.



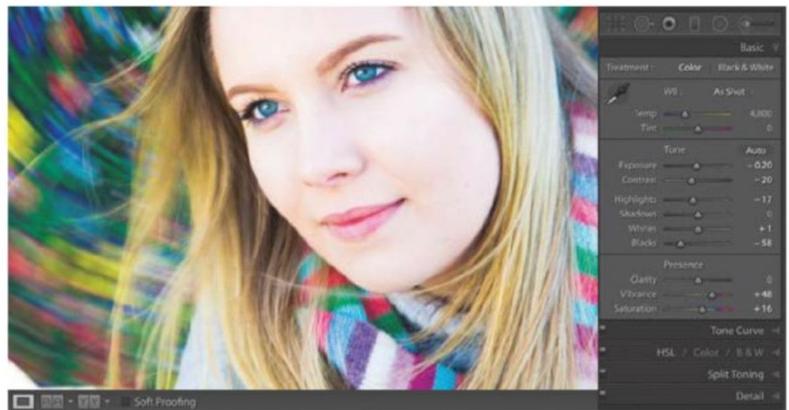
Make the edits to your image in the Develop module and then create a preset

The screenshot shows the 'New Develop Preset' dialog box. At the top, 'Preset Name:' is set to 'Subtle cross-process' and 'Folder:' is set to 'Colour effects'. Under 'Auto Settings', 'Auto Tone' is checked. In the 'Settings' section, several checkboxes are selected under 'Basic Tone' (Exposure, Contrast, Highlights, Shadows, White Clipping, Black Clipping), 'Color' (Saturation, Vibrance, Color Adjustments), 'Split Toning' (Cyan, Magenta, Yellow), and 'Process Version' (Post-Crop Vignetting, Color). Other options like 'White Balance', 'Tone Curve', 'Clarity', and 'Sharpening' are unchecked. At the bottom are 'Check All', 'Check None', 'Cancel', and 'Create' buttons.

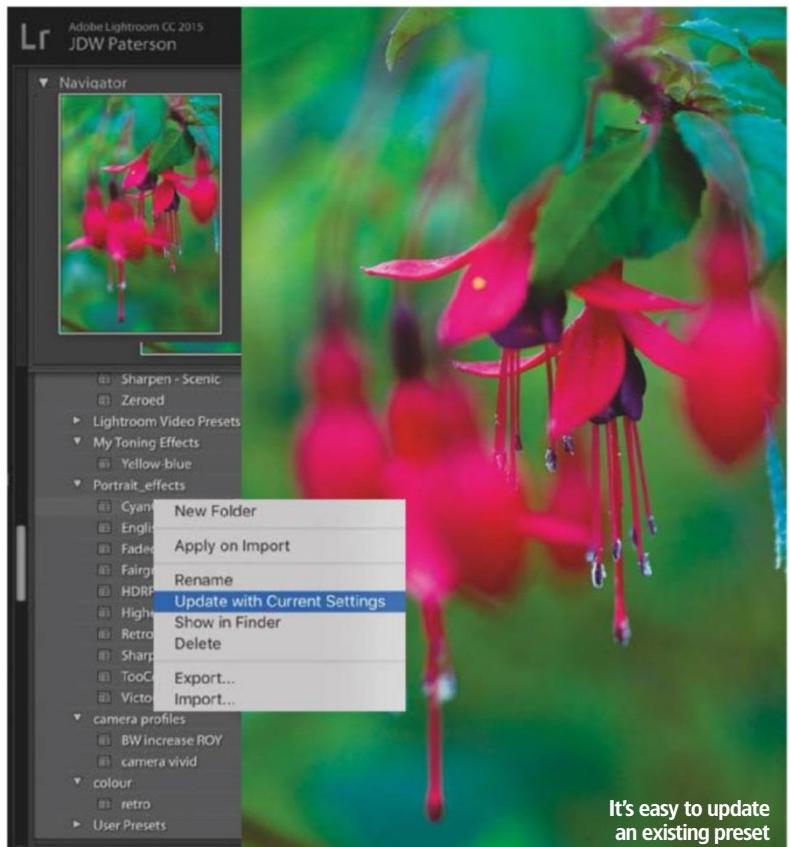
To make a new preset, simply click the plus icon, choose a name and a folder, select the editing choices and then hit save

## 8 A starting point

Occasionally you can click on a preset, love the result and that's it, job done. However, more often than not presets function as a starting point for further edits. After applying, you can go on to alter any of the settings by dipping into the various panels to the right of the Develop Modules, so have a play.



After applying a preset you can tweak the settings to fine-tune the result



It's easy to update an existing preset

## 9 Update existing recipes

Often we make a preset and then decide to tweak a setting or two. But rather than making a fresh preset for the new tweaks, it's actually easier to update an existing one – simply right-click over the preset name and choose 'Update with current settings'.



This particular image suited an infrared preset

## 10 Setting parameters

Whenever you make a new preset you can choose exactly which Develop Module settings should be included by checking the relevant boxes. Bear in mind that if you 'Check All', then any existing edits on an image will be replaced. It's usually best to 'Check None' then select only the settings that have been tweaked.

New Develop Preset

Preset Name: colour infrared

Folder: JP BW faves

Auto Tone

**Settings**

<input checked="" type="checkbox"/> White Balance	<input checked="" type="checkbox"/> Treatment (Color)	<input type="checkbox"/> Lens Corrections
<input checked="" type="checkbox"/> Basic Tone	<input checked="" type="checkbox"/> Color	<input type="checkbox"/> Lens Profile Corrections
<input checked="" type="checkbox"/> Exposure	<input checked="" type="checkbox"/> Saturation	<input type="checkbox"/> Chromatic Aberration
<input checked="" type="checkbox"/> Contrast	<input checked="" type="checkbox"/> Vibrance	<input type="checkbox"/> Lens Distortion
<input checked="" type="checkbox"/> Highlights	<input checked="" type="checkbox"/> Color Adjustments	<input type="checkbox"/> Lens Vignetting
<input checked="" type="checkbox"/> Shadows		
<input checked="" type="checkbox"/> White Clipping		
<input checked="" type="checkbox"/> Black Clipping		
<input type="checkbox"/> Tone Curve	<input checked="" type="checkbox"/> Split Toning	<input type="checkbox"/> Transform
<input type="checkbox"/> Clarity	<input type="checkbox"/> Graduated Filters	<input type="checkbox"/> Upright Mode
<input type="checkbox"/> Sharpening	<input type="checkbox"/> Radial Filters	<input type="checkbox"/> Upright Transforms
	<input type="checkbox"/> Noise Reduction	<input type="checkbox"/> Transform Adjustments
	<input type="checkbox"/> Luminance	<input type="checkbox"/> Effects
	<input type="checkbox"/> Color	<input type="checkbox"/> Post-Crop Vignetting
		<input type="checkbox"/> Grain
		<input type="checkbox"/> Dehaze
		<input checked="" type="checkbox"/> Process Version
		<input type="checkbox"/> Calibration

Check All    Check None  

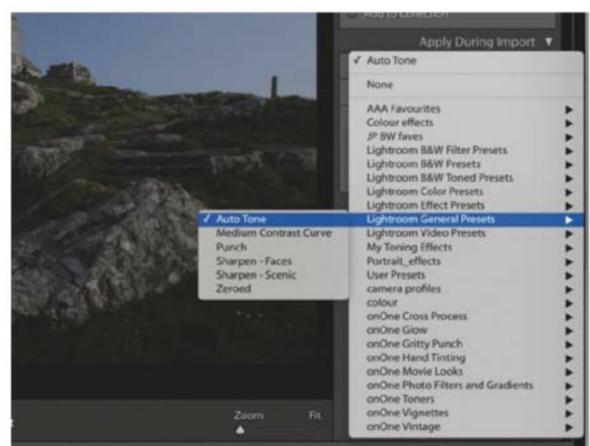
Check the relevant boxes to select only the settings that have been tweaked

## 11 Change the defaults

If you make the same edits to every single image (perhaps to remove chromatic aberration or apply sharpening) then there's an alternative to using presets – alter the default settings. First reset any existing edits, apply your chosen settings then go to Develop>Set Default Settings>Update to Current Settings.



Adding a preset to boost saturation can make a big difference



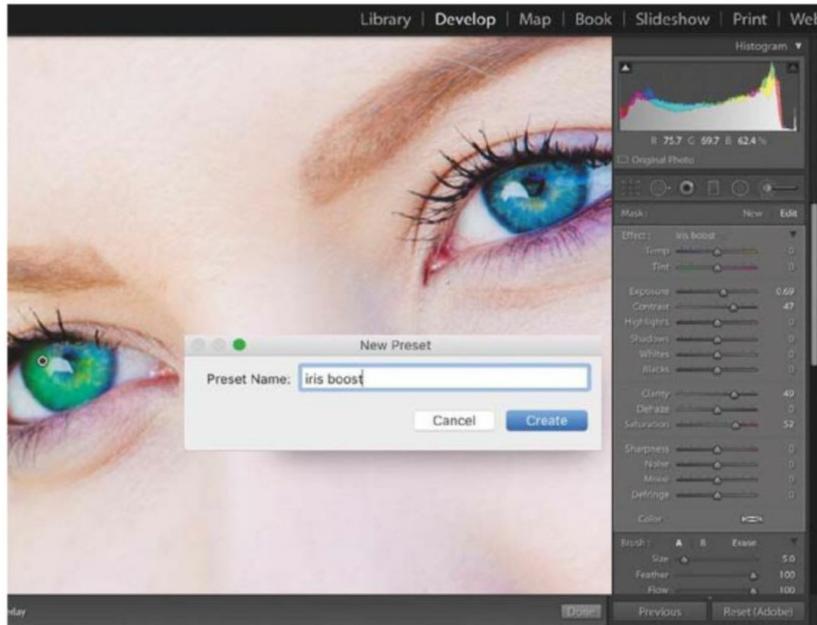
You can apply presets to sets of images during import

## 12 Apply on import

You can apply presets to whole sets of photos while importing them into Lightroom, using the Import dialogue's 'Apply During Import' box. Straight out of camera, the images (especially raws) can sometimes look a little underwhelming, but if you add a preset – perhaps to auto-tone and boost saturation – they will be more vibrant on first viewing.

## 13 JPEGs and white balance

Lightroom's Temperature slider shows the Kelvin scale from 2000 (cool) to 50,000 (warm) when working on raw files, but with JPEGs it ranges from -100 to +100. So what happens when we apply a preset that includes raw white balance settings to a JPEG? Lightroom will attempt to come up with an equivalent, but be aware that it may not be a perfect match.



You can set up and save an adjustment for enhancing the irises of a subject's eyes

## 15 Save selective edits

Selective tonal presets can be saved and accessed when using the Adjustment Brush, Radial and Graduated Filters via each tool's Effect dropdown. So, for example you can set up and save an adjustment for enhancing irises. You can also make presets for your favourite Import and Export settings via their dialogue boxes.



## 16 Lightroom mobile presets

If the idea of editing your Lightroom image library on your phone or tablet appeals to you, then keep in mind that Lightroom Mobile (available to anyone with a Creative Cloud subscription) also allows you to apply a range of 48 presets, some familiar from the desktop version, others new to LR Mobile.

## 14 Post a set online

Why not share your favourite presets with others? It's easy to do. Simply go to Edit>Preferences (Windows) or Lightroom>Preferences (Mac). Select the Presets tab then click Show Lightroom Presets folder. Choose your set within the Develop Presets folder, copy it to your desktop, then post or upload your collection.



Presets in the Preset Panel include options for monochrome

## 17 In-built effects

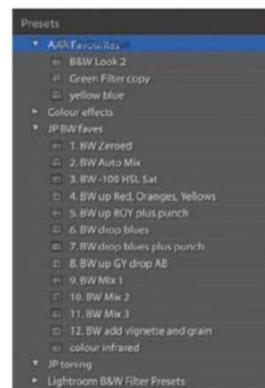
Lightroom comes with an array of in-built presets within the Preset Panel – like mono effects or toning treatments – that are a great place to start. My favourites are Creamtone, Bleach Bypass, Direct Positive and the B&W Filters. The zeroed preset also comes in very handy for removing an effect.



These effects are a great way to begin adjusting your images

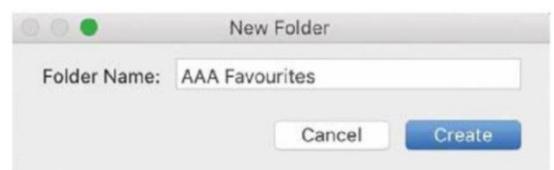
## 18 Spray can presets

The Library Module's painter tool lets you paint quickly over several images to apply a preset. Go to the Library and hit G for grid view then grab the spray can from the bottom of the display. Next to this, choose Paint: Settings and select a preset. Now simply paint over images in the grid to apply the preset.



## 19 Organise your panel

Presets are all about speeding up your workflow, but if the Preset Panel is messy it can slow you down. So take a few minutes to organise your presets properly. You can make new folders for different sets by right-clicking the panel, and drag presets from one folder to another folder to make copies.



## 20 Quickly access favourites

The presets panel can very quickly end up housing hundreds of presets. So to save you having to wade through them all it's best to make a folder at the very top for your favourite presets. Call it something like 'AAA Favourites' then drag your most-used presets into it to make copies.

## At a glance

£729 body only

- 24.2-million-pixel APS-C sensor
- DIGIC 7 image processor
- Dual Pixel AF system
- Canon EF-M lens mount
- ISO 100-25,600
- 9fps continuous shooting



# Canon EOS M6

The **EOS M6** sits below the **EOS M5** in Canon's evolving mirrorless line-up. **Michael Topham** finds out if it makes a case for itself without a built-in electronic viewfinder

## For and against

- |                                      |  |
|--------------------------------------|--|
| <span style="color: green;">+</span> | Improved performance and excellent image quality             |
| <span style="color: green;">+</span> | Sprightly autofocus even with adapted EF-S/EF lenses         |
| <span style="color: green;">+</span> | Supports optional clip-on EVF-DC2 viewfinder                 |
| <span style="color: green;">+</span> | Effective in-body electronic stabilisation for movie capture |
| <span style="color: red;">-</span>   | Only offers two AF point sizes in 1-point AF mode            |
| <span style="color: red;">-</span>   | More expensive than its rivals                               |
| <span style="color: red;">-</span>   | Poor battery life (295 shots using LCD monitor)              |
| <span style="color: red;">-</span>   | Can't attach EVF and speedlight simultaneously               |

## Data file

Sensor	24.2-million-pixel APS-C-sized CMOS sensor
Output size	6000x4000 pixels
Focal length mag	1.6x
Lens mount	Canon EF-M
File format	JPEG, raw, JPEG&raw
Shutter speeds	30secs-1/4000sec, bulb
ISO	100-25,600
Exposure modes	PASM, Scene Intelligent Auto, Creative Auto, Scene
Exposure comp	+/-3EV in 1/3EV steps
Metering modes	Evaluative, Partial, Center weighed and Spot
Drive	9fps or 7fps with continuous AF
Movie	1920x1080 pixels @ 60,50,30,25, 24fps (1280x720 up to 60fps)
LCD	3in, 1040k-dot tilting touchscreen
Focusing	Dual Pixel CMOS AF system. Maximum 49 AF points (fixed location on 7x7 grid)
Memory card	SD, SDHC, SDXC (UHS-1)
Dimensions	112.0x68.0x44.5mm
Weight	390g (body only)

**C**anon has built up an excellent reputation over the years for producing some sublime cameras, so when the manufacturer finally decided to release its first mirrorless camera in the form of the EOS M in 2012, we were excited to find out if it was worth waiting for. Unfortunately, and as is sometimes the case with a new model in a new series, the EOS M turned out to be a bit of a damp squib – it was too simplistic for enthusiasts and was hamstrung by painfully slow focusing.

Three years later the much-improved EOS M3 arrived, but this wasn't faultless either and suffered from a slow burst speed, meagre raw buffer and a bulky kit zoom, not to mention the lack of an integrated viewfinder. After listening to its critics, Canon then presented us with the EOS M5.

This is the current flagship model in the EOS M range and has been better received by enthusiasts who want to raise the camera to their eye to compose, and demand a plentiful set of manual controls.

Canon hasn't let up on releasing new models in its mirrorless range. The addition of the EOS M6 arrives as the replacement for the two-year-old EOS M3. It doesn't feature an in-built electronic viewfinder, which gives it a more hunkered-down appearance, but it does come with the option to attach an EVF via its accessory shoe on the top-plate. Choosing the EOS M6 over the EOS M5 will save you £270, and on first glance it looks like it has the potential to be a cracking little camera for anyone who's after manual control in a small-sized body that accepts Canon's EF-M lenses as well as EF-S and EF lenses via an adapter.

The EOS M6 exposes well for scenes and delivers excellent tonality. Here, the rich blue tones have been captured just as I remembered them  
Canon EF-M 15-45mm f/3.5-6.3 IS STM,  
1/640sec at f/6.3, ISO 100



## Features

Just like the EOS M3 inherited the 24.2-million-pixel, APS-C sized CMOS sensor from Canon's EOS 750D and EOS 760D DSLRs, the EOS M6 is equipped with the same chip we've recently seen employed within the EOS 800D and EOS 77D.

Although the sensor doesn't offer any form of increase in terms of pixel count, it gains Canon's Dual Pixel CMOS AF technology that we've seen filter down to many of the company's recent models. Its Dual Pixel design splits each of the light-sensitive pixels into two photodiodes, right and left, and this enables phase detection for autofocus, which is very similar to the systems traditionally found in DSLRs. Coupled with Canon's DIGIC 7 processor, which is said to be 14x more powerful than the DIGIC 6

processor used in the EOS M3, it should deliver a focus speed that's on a par with the EOS M5.

Earlier I mentioned one of the EOS M3's downfalls was its rather pedestrian shooting speed and poor buffer performance. The EOS M6 is superior in both respects and is capable of recording continuously at up to 9 frames per second, or 7 frames per second with autofocus between frames. What's more, it now allows you to record 17 raw files continuously – a big improvement on the 5 raw files you could shoot at 4.2fps on its predecessor. In addition to these speed benefits, the new sensor and processor pairing provides a sensitivity range that spans ISO 100-25,600. However, you can't expand it to an equivalent of ISO 51,200 like you can on the EOS 800D/77D.

Returning to the subject of speed, the camera offers a shutter speed range of 30-1/4000sec. Unlike some mirrorless cameras that let you use faster shutter speeds after employing an electronic shutter, the EOS M6 doesn't provide this option. This also means the camera doesn't feature a fully silent mode as found on many mirrorless cameras today. If you like to work inconspicuously, it might not be the best option.

From the top-plate you're given access to the full suite of manual modes and an array of subject-based scene modes and creative filters for image-processing effects. As well as these you get Canon's beginner-friendly Creative Assist mode that gives a results-oriented method for users to adjust their shots. Regrettably, the camera does lack a couple of popular shooting modes and doesn't

allow you to create stitched panoramas in-camera.

One of the talking points of the EOS M6 is its lack of a viewfinder. The good news is that Canon has designed a removable viewfinder to match, called the EVF-DC2. This offers a high 2.36-million-dot resolution with 0.63x magnification and is designed to lock in to the camera's accessory shoe and automatically switch the feed between the screen and EVF and vice versa. The bad news is that it'll dent your wallet and doesn't offer 90-degrees upward tilt like the EVF-DC1. Those who've previously purchased an EVF-DC1 will be glad to hear that it can be used with the EOS M6.

To the left of the accessory shoe there's a small built-in flash that pops up out of the top-plate for situations when you need a blip of extra light and below



The 15-45mm kit lens is compact and perfectly useable. It's equivalent to 24-72mm in 35mm terms  
Canon EF-M 15-45mm f/3.5-6.3 IS STM,  
1/500sec at f/5, ISO 400

# Connectivity

JUST as we've seen on previous EOS M cameras, Canon has incorporated Wi-Fi into the EOS M6, with Dynamic NFC for pairing with compatible devices. Canon's Wi-Fi connectivity is well-advanced and while its primary use will be to send images to smartphones or tablets, it can also be used to take remote control of the camera when it's paired with Canon's intuitive and easy-to-use Camera Connect app that's free to download on iOS and Android. Aside from being able to connect to a smartphone or tablet for image sharing and remote control, the EOS M6 can also send images directly to compatible printers, or be used to show off your images on a smart TV without having to plug in a cable.

In addition, Canon has included Bluetooth connectivity to form a permanent connection to a smartphone – a feature previously seen on the EOS M5, EOS 800D and EOS 77D. Testing this on the EOS M6 revealed that it works just as well as we've reported before. It allows your phone to be used as a remote control at any time, without having to mess around setting up a Wi-Fi connection between the two devices. The Bluetooth connection can also instruct the camera to fire up its Wi-Fi for when you want to copy images across to your phone, or use full remote control with live view.

It's surprising the EOS M6 isn't compatible with the BR-E1 Bluetooth remote control that was announced alongside the EOS 77D and EOS 800D DSLRs. All is not lost however, as it still works with Canon's RC-6 infrared remote release, as well as the RS-60E3 wired remote.

**►** this you get a 3-in, 1.04-million-dot screen in the 3:2 aspect ratio to match the sensor. It's a touch-sensitive screen so you can control almost all the camera's settings by tapping the display. It also tilts downwards by 45° for overhead shooting, upwards for use as a waist-level viewfinder, and even faces fully forwards for when you shoot selfies.

The viewfinder and screen display useful information clearly when you're shooting, including a dual-axis electronic level and live histogram that can be easily pulled up using the info button. The quick menu displays regularly used settings down either side of the display for instant access and can be arranged to suit personal taste.

The EOS M6 doesn't support 4K video so if you like to shoot the occasional movie you'll have to make do with conventional Full HD (1920x1080 pixel) capture at up to 60fps. It does however carry across the effective 5-axis in-body electronic stabilisation that we've seen before in the EOS M5, resulting in handheld footage appearing far less jolty with a more fluid and professional look to video capture.

## Build and handling

When we tested the EOS M3, we criticised it for not being supported by very many EF-M lenses, as well as the 18-55m kit zoom feeling a tad too big on a body of its size. We're now at the point where there are seven EF-M lenses to choose from, which is an improvement, however the line-up is still missing a few key optics and has some way to go before we can say EOS-M cameras have a comprehensive lens range to back the system up. Canon's decision to make a smaller, retractable-style of kit lens in the shape of the EF-M 15-45mm f/3.5-6.3 IS STM is well

received. This was supplied with the camera for our review, along with the EF-EOS M mount adapter that allowed us to try it out with some fast primes of which there are currently very few in the EF-M range. The problem with attaching EF-mount lenses to the EOS M6 via the mount adapter is that it somewhat defeats the object of choosing a portable and compact body. Even with a relatively small and lightweight lens like the EF 50mm f/1.8 STM, it makes the camera bulky, not to mention front heavy.

With the dinky kit lens attached, the EOS M6 handles very nicely and offers a well-sculpted rubber-coated grip to wrap your hand around. People with large hands may find it's a bit cramped and too small, but generally speaking it's a satisfying camera to pick up and hold. Tap the top-plate with your finger and it feels a little plasticky, but in fairness the rest of the camera, including the front and rear panels, buttons and dials are solid and robust. The body is primarily made from polycarbonate rather than aluminium or magnesium alloy, helping it weigh in just shy of 400g (body only).

The positioning of buttons and dials doesn't differentiate greatly from the EOS M3. At the front is a single lens release button beside the lens mount, while on the top-plate everything is as before, including a fully rotating mode dial, a front dial that encircles the shutter button and a customisable function button that's just offset. The biggest change is found on the top right-hand corner, where Canon has introduced a rear dial below the exposure compensation dial that sits proud of the top-plate. This enables independent control of aperture and shutter speed in manual mode and quick control of ISO in aperture priority and shutter priority modes. A new on/off switch

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is located off to the side of the new rear dial, replacing the push button on the EOS M3. Something I'm particularly fond of is the uniformed knurled texture of the dials. The way they can all be accessed by the thumb or index finger is great too, especially for times that demand you control the camera single-handedly.

At the rear, Canon has refined which button controls what, so anyone upgrading will need to spend a bit of time getting familiar with it. Playback has moved below the small scroll wheel and in its place to the right of the thumb rest is an AF button. This is used to reposition the AF point in the frame, resize the AF point, or zoom to inspect focus at either a 5x or 10x magnification in combination with the front/rear top-plate dials and scroll wheel. The movie-rec button has dropped down beside the info button and the AE lock button has been promoted beside the thumb rest. The EOS M6 is an excellent example of how to merge touchscreen control with traditional buttons, giving users the best of both worlds when shooting and reviewing images.

Canon's excellent colour-coded menu system is a pleasure to

navigate using the highly sensitive and precise touchscreen. Not only can it be used to change virtually any setting, it's great for pinpointing the autofocus point around the frame. The only thing you can't do is select or move the AF point using the screen when the clip on EVF is raised to your eye, and we would have liked to see a wider selection of AF point sizes to choose from in 1-point AF mode other than just two.

There were times when I found it frustrating that I couldn't tilt the EVF-DC2 by 90°, especially when I found myself shooting from low angles in bright sunlight. As clip-on EVF's go, it's nice and sharp, as light as a feather and locks with a reassuring click to prevent it from getting accidentally knocked off or lost.

#### Performance

When we reviewed the EOS M5 late last year we discovered that autofocus acquisition has improved greatly since the introduction of Dual Pixel AF and its DIGIC 7 image processor. It's a similar story with the EOS M6. The focusing response and lock-on speed finally feels as fast and decisive at its competitors, and is far superior to the

**The EOS M6 offers a high dynamic range. Detail was returned to the sky and dark shadows in this Highland scene**  
Canon EF-M 15-45mm f/3.5-6.3 IS STM,  
1/320sec at f/14, ISO 400



## Focal points

The EOS M6 has advanced a long way from Canon's original EOS M and EOS M3 models

#### Eco mode

To preserve battery life, the camera has an Eco mode. This turns the display off and powers the camera down much faster when it's not in use but keeps it switched on.

#### Lenses

As things stand Canon currently produces seven EF-M lenses for the EOS M6. Pair it up with the EF-EOS M mount adapter however and it suddenly becomes compatible with more than 80 lenses from Canon's EF-S and EF lens range.



#### 5-axis Digital IS

This is available for video recording, meaning footage is stabilised even when using non-IS lenses. The electronic stabilisation can be combined with optical stabilisation when using compatible EF-M or EF-S lenses.

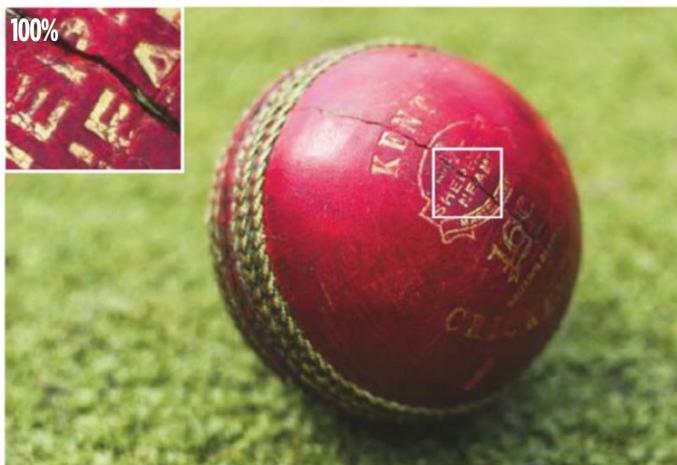
#### Customisation

Head into the camera's C.Fn II: Others option in the menu and you're given the option to customise the camera's controls and function button to your preferred settings.

#### Creative modes

There are eight creative modes to explore, including grainy black & white, soft focus, fish-eye, toy camera, miniature and HDR. Simply turn the mode dial to its creative mode setting to explore the different modes on offer before giving them a try.





The EOS M6 resolves impressive detail Canon EF 50mm f/1.8 STM, 1/640sec at f/2.8, ISO 100

**►** EOS M3 when it comes to tracking moving subjects through the frame. With the AF mode set to Servo and the AF method set to Live Tracking, it does a reasonable job of keeping up, though for the most erratic and fast-moving subjects I had better success switching across and shooting in the Smooth Zone AF mode. To remind you which AF mode the camera is set to, AF points illuminate green when the camera is set to One Shot AF and blue when it's set to Servo AF. Those who use the camera in 1-point AF mode can hold the dedicated AF button to reposition the AF point back to centre or alternatively use the info button.

The other notable improvement is how well the EOS M6 performs with EF-mount DSLR lenses that are attached via the EF-EOS M mount adapter (£109). Unlike the EOS M3 that showed signs of hesitancy and would take a second or more to acquire focus, the EOS M6 hastily focused on subjects when it was paired with the EF 50mm f/1.8 STM and EF 16-35mm f/2.8 L III USM. Mounting large and heavy EF lenses does upset the feel and balance of the camera in the hand, but for those who already own a few EF lenses, it's quite reassuring to know that it could be used as a backup to a DSLR. As a camera in its own right and when it was used with the kit lens, it offered a level of performance that was more than up to the job of capturing high-quality stills on a jaunt around the Scottish Highlands. As a travel camera it's conveniently sized, exposes reliably, never feels slow or sluggish, and delivers images that you feel do scenes and subjects justice. Those who

like to experiment may find the creative modes fun to explore, but for purists wanting to record images faithfully with the finest detail, or those looking for the best response in low light, shooting in the raw format is unquestionably the best option.

The combination of its fast focusing and ability to rattle off more frames in a shorter timeframe makes it rather good for capturing speedy subjects. Loaded with a Lexar Professional 633x SDHC Class 10 card, it showed no difficulty shooting 16 frames at 9fps in the raw format before it required a breather. Switching the AF operation to Servo and shooting at a slower 7fps with AF between frames revealed it records the same number, however by switching from raw to JPEG it's possible to record a higher number of images per burst. With our card we had no issues shooting 30 large JPEGs at 9fps before it slowed down.

In general use you'll find it powers up quickly and responds to button and touchscreen presses with no lag whatsoever. The dials on the top-plate operate positively and click as they're rotated, while the screen flips out very smoothly and requires minimal effort to angle it to where you want it. One niggle I found whilst travelling is the inability to charge the battery on the go via USB. Sadly it doesn't support USB charging, so after shooting around 300 frames I found myself searching for a mains socket. To rule out the fear of running out of power, you may wish to purchase an additional battery for longer shooting spells. A spare LP-E17 battery will set you back around £40.

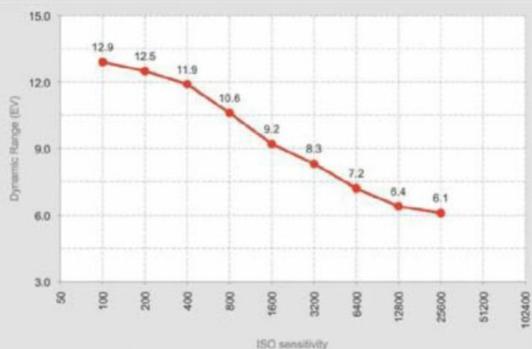
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# Lab results

Andrew Sydenham's lab tests reveal just how the camera performs

The EOS M6 shares the same innards as the EOS M5 so, as you'd expect, the image-quality performance is identical. The 24-million-pixel Dual-Pixel CMOS sensor is also similar to the chip used in Canon's EOS 800D/77D DSLRs. However, it's not optimised to shoot at quite as high sensitivity and has an ISO ceiling of ISO 25,600. Even with an optical low pass filter, resolution is high and the dynamic range results at low-ISO are excellent. As for noise, it's possible to walk away with usable results as high as ISO 3200 and ISO 6400.

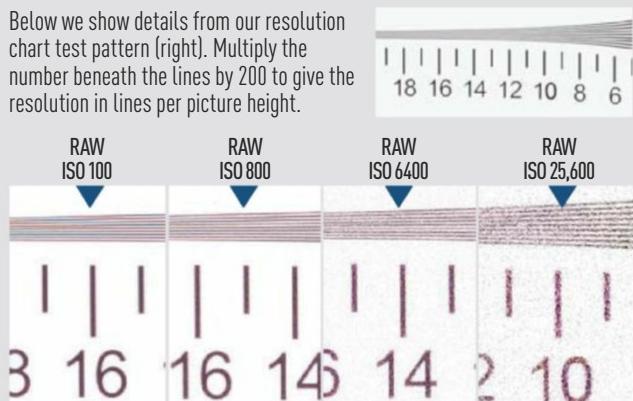
## Dynamic range



With Canon's latest APS-C sensor, the EOS M6 delivers an impressive set of results comparable to those we recorded by the EOS M5 a few months ago. Results peak at 12.9EV at ISO 100, indicating there's plenty of scope when it comes to recovering shadow detail when processing raw files. Naturally, the dynamic range drops as the ISO is raised, but it stays above 10EV up to ISO 800, with 8.3EV and 7.2EV recorded at ISO 3200 and ISO 6400 respectively. Lower figures at the highest two ISO settings indicate that their best avoided, with significant noise affecting the level of fine detail that's recorded.

## Resolution

Below we show details from our resolution chart test pattern (right). Multiply the number beneath the lines by 200 to give the resolution in lines per picture height.



The EOS M6 is a strong performer when it comes to resolution and the level of detail it resolves. Detail is on par with Canon's EOS 800D/77D DSLRs, but for the best detail you'll want to prioritise shooting and editing in raw. An inspection of the raw files shows it resolves 3,200l/ph at ISO 100, dropping to 3,000l/ph at ISO 800. As the sensitivity is pushed higher, noise starts to soften the finer details. The sensor resolves 2,800l/ph at ISO 6400, beyond which point resolution drops more dramatically to 2,000l/ph at ISO 25,600.



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## Noise

Both raw and JPEG images taken from our diorama scene are captured at the full range of ISO settings. The camera is placed in its default setting for JPEG images. Raw images are sharpened and noise reduction applied, to strike the best balance between resolution and noise.

RAW ISO 100



RAW ISO 1600



RAW ISO 12,800



The EOS M6 performs admirably when it comes to noise response. The in-camera JPEG processing does an acceptable job up to about ISO 1600, after which you start to notice noise reduction smoothing out the finest detail. Shoot in raw and you'll notice that noise starts to creep in to files at ISO 800, but it's by no means derogatory to the final image. You can push up to ISO 3200 and ISO 6400 if needs must, and to achieve the best results at these settings, you'll want to apply a little noise reduction in post production. Chroma noise is kept to a minimum throughout the sensitivity range, but saturation does drop off at ISO 12,800 and ISO 25,600. You're best off avoiding these settings wherever possible and they're only worth turning to when you have no other option in a low-light situation.

RAW ISO 400



RAW ISO 6400



RAW ISO 12,800



The EOS M6 performs admirably when it comes to noise response. The in-camera JPEG processing does an acceptable job up to about ISO 1600, after which you start to notice noise reduction smoothing out the finest detail. Shoot in raw and you'll notice that noise starts to creep in to files at ISO 800, but it's by no means derogatory to the final image. You can push up to ISO 3200 and ISO 6400 if needs must, and to achieve the best results at these settings, you'll want to apply a little noise reduction in post production. Chroma noise is kept to a minimum throughout the sensitivity range, but saturation does drop off at ISO 12,800 and ISO 25,600. You're best off avoiding these settings wherever possible and they're only worth turning to when you have no other option in a low-light situation.

## The competition



### Panasonic GX80

Price £447 (body only)

Sensor

16MP Live MOS sensor

ISO 100-25,600

Video 4K and full HD

Continuous shooting 8fps

Reviewed

18 May 2016



### Sony A6300

Price £699 (body only)

Sensor

24.2MP APS-C CMOS sensor

ISO 100-51,200

Video 4K and full HD

Continuous shooting 11fps

Reviewed

4 May 2016



### Fujifilm X-T20

Price £799 (body only)

Sensor

24.3MP APS-C X-Trans CMOS II

ISO 100-51,200

Video 4K and full HD

Continuous shooting 14fps

Reviewed

14 March 2017



Read the full tests of these cameras at [www.amateurphotographer.co.uk/reviews](http://www.amateurphotographer.co.uk/reviews)

## Verdict

THE EOS M6 has come a long way from Canon's first attempts at creating an appealing mirrorless camera. It improves in many of the areas that we criticised the original EOS M and EOS M3 for – notably the speed and response of its focusing system and performance when used with EF and EF-S lenses. It's a satisfying, straightforward little camera to use that delivers excellent image quality, however most users will find themselves instinctively raising it to their eye and it is far more enjoyable to operate with the optional EVF attached. Add this to the price of the camera with the 15-45mm kit zoom and you only save £20 choosing it ahead of the EOS M5, which has a more aesthetically pleasing built-in EVF. This poses the question; is the EOS M5 a better buy? Factor in that it does everything the EOS M6 can do and you can find deals that throw in an EF-EOS M mount adapter for free and it's a no-brainer – I'd settle for the EOS M5 ahead of the EOS M6 in a heartbeat.

The EOS M6 is rather pricey up against its competition too, and if you're after a camera of this style with a built-in EVF the Panasonic Lumix GX80 is a considerably cheaper option. It offers 4K video too, which the EOS M6 does not.

In hindsight, had Canon implemented a viewfinder on the corner of the body ahead of its small flash it would have made it a



more attractive proposition. Little things like the lack of silent shutter and USB charging support are other reasons that you might be tempted to look at the alternatives.

Before reviewing the EOS M6 I had reservations about how well the camera would sit in Canon's range of mirrorless cameras. Given its high price and similarities with the EOS M5 it's unlikely to appeal as widely as its big brother. Saying that, for those who feel they can live without the need of a viewfinder, fancy saving a couple of hundred pounds and already own a selection of Canon EF-S or EF-S lenses, it might be seen as a useful second body that gets aired when a DSLR isn't seen as a practical or convenient option.

**Amateur  
Photographer  
Testbench**

FEATURES	7/10
BUILD & HANDLING	8/10
METERING	9/10
AUTOFOCUS	8/10
AWB & COLOUR	9/10
DYNAMIC RANGE	8/10
IMAGE QUALITY	8/10
VIEWFINDER/LCD	8/10

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# Manfrotto Windsor Reporter

**Andy Westlake** tries out a versatile shoulder bag

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WHILE Manfrotto is still best known for its tripods, more recently it has started to make camera bags for seemingly every taste. Its Windsor collection is a set of classically styled bags in olive and grey fabric with dark-brown leather detailing. The Reporter is a slimline shoulder bag designed for everyday use, with a flexible interior that will take a laptop and other items.

In essence it's a simple bag, with a zipped main compartment and an outside pocket that covers its entire front face. This will hold a newspaper or magazine and includes two half-width slip pockets that can each hold an e-reader or a 7in tablet. The only carrying option is a shoulder strap made of a dark brown seatbelt-style material, which has generous length adjustment via twin sliding buckles.

It's when we turn our attention to the interior that things get more interesting. It's padded and soft-lined to protect your kit, with movable dividers that allow you to configure one half to fit your camera. This section will take an enthusiast DSLR such as a Canon EOS 7D Mark II with a short zoom attached, although the bag's slim design means it's a bit of a squeeze if you also want to carry a laptop, which slips into its own padded compartment at the back. Smaller cameras such as the Sony Alpha 7 series fit somewhat better. However, one quirk of the bag's design is that it leaves several inches of empty space above your camera kit, which feels a bit wasteful.

An additional flexible divider can protect another lens, and is perfect for a 70–300mm telezoom. Alternatively, you can devote the second half of the bag to other items – perhaps your laptop charger and dongles, or your lunch. A full-width zipped document pocket and half-width mesh pocket complete the internal accommodation.

## Our verdict

It's clear the Manfrotto Windsor Reporter isn't designed to be a conventional camera bag – if that's what you need, look at the messenger bags in the same range. But if you like to carry a camera with you while going about your daily life, perhaps carrying a laptop to and from work, it's a really interesting option.

Like all Manfrotto bags, the Windsor Reporter is well made from quality materials, and the two-tone olive and grey finish looks quite smart. However, I'd be wary of how waterproof the zip closures might be in a downpour. Aside from this, though, if you want a quality bag that will carry more than just your camera kit, it's well worth a look.



## THE WINDSOR RANGE

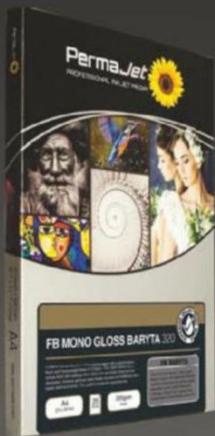
The Windsor range also includes two messenger bags of different sizes, as well as a backpack, right, (rrp £159.95).

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## Professor Newman on...

# Taking a small step back in time

Bob Newman examines the subtle changes brought by the M10 – the latest Leica launch

**I**find the latest camera from Leica – the M10 – interesting for a number of reasons, starting with its name. Back in 2012, Leica announced it was ending the numbering of its M-series cameras (and in fact all its cameras). Henceforth, they would be known as 'Leica M' – although since it is clearly necessary to distinguish different types of M camera, the company adopted a different numbering system. The full name of the new 'M' was 'M (Typ 240)'. There followed some variants, the 'M (Typ 246)' with a monochrome sensor and the 'M (Typ 262)'. The 'Typ 262' was notable for what it didn't have. It no longer had video capability, nor did it allow live view on the rear screen.

**Rangefinder limitations**  
This latter feature is perplexing, because the removal of live view also removed the ability to use Leica's 'Visoflex' electronic viewfinder. The name of this finder is taken from the old Leica reflex viewfinder attachment, necessary for longer lenses. Such a finder overcomes one of the major limitations of a rangefinder camera, the limited range of lenses that the viewfinder can handle. This is incidentally, why you haven't been able to buy zoom lenses for your Leica, the closest being the 'Tri-Elmar', which is simply a zoom lens click-stopped to allow only three focal lengths, discarding all the intermediate ones that the viewfinder cannot handle.

Anyway, back to the

subject. Having announced the end of the numbering of M cameras, Leica has reintroduced it with the M10 (which, I suppose, makes the Typ 240 the M9.5). The M10 is a subtle evolution, losing some features and gaining others. The Typ 240's video capability has been deleted, but the live view retained (which means that the camera has internal video capability, it just can't save the results to a file). The live view means that it can be used with the Visoflex viewfinder. All around the cameras are signs of 'devolution'. It has a real physical ISO knob, just like the one used to set the meter on a film camera. The on-off switch has been simplified to be simply an on-off switch, just as it used to be on film cameras. The camera has

regained the traditional Leica viewfinder control lever. It has lost quite a few buttons, which Leica says makes it simpler to operate, which makes one wonder why the buttons were there in the first place. The final thing it has lost is a few millimetres in depth from front to back. This is again a reversion to film days; starting with the M8, digital Leicas have fattened up to accommodate the rear circuit board and LCD.

Taken together, the updates make little sense, until one realises that this is a controlled exercise in nostalgia. These apparently minor changes take the M10 back to something closer, at least in user perception, to the traditional film M camera. The positive reviews from seasoned Leica users suggest this was exactly what they wanted.



Harking back to the days of film, the Leica M10 is the result of a clever exercise in nostalgia

**Bob Newman** is currently Professor of Computer Science at the University of Wolverhampton. He has been working with the design and development of high-technology equipment for 35 years and two of his products have won innovation awards. Bob is also a camera nut and a keen amateur photographer

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GRIFO	Series 3 4S XL • 202cm Max Height • 10cm Min Height
New Systematic Tripods:	£764
Series 3 4S XL	£674
Series 3 3S L	£699
Series 5 4S XL	£999
Series 5 6S G	£1099

Manfrotto Imagine More	
MT055XPRO3	• 170cm Max Height • 9cm Min Height
MT055XPRO3	£159
MT055CXPRO3 Carbon Fibre	£329
MT055CXPRO4 Carbon Fibre	£349

Manfrotto Imagine More	
Befree One Travel Tripod - Red	• 130cm Max Height • 49cm Min Height
Aluminium Available in Black, Red, and Grey	from £99

JOBY	
Hybrid GP2B	• 1000g Max Load • 25.7cm Height
Joby Tripods	Original..... £16.99 Hybrid ..... £29 SLR Zoom ..... from £44.99 Focus GP-8..... from £89

**Flashguns & Lighting Accessories**

Canon Speedlites:	
430EX III-RT	£249
600EX-RT	£429
MR-14EX II	£549

Macrolites:	
MT-24EX	£879

Nikon Speedlights:	
SB5000	£499
SB700	£239
R1 Close-Up	£429

Kits:	
R1C1	£599
HVL-F43M	£249
HVL-F60M	£425

Sony Flashguns:	
FL-300R	£134.99
FL-600R	£279

Olympus Flashguns:	
FL-300R	£134.99
FL-600R	£279

Nikon Flashguns:	
i40	£149
Di700 Air	£199

Gossen Flashguns:	
Sekonic L-308s	£179
Pro 478DR	£369
DigiPro F2	£210

Meike Flashguns:	
26 AF-1	£79.99
44 AF-2	£115
52 AF-1	£209
64 AF-2	£309
15 MS-1	£299

Macro flash:	
EF 610 DG ST	£109
EF 610 DG Super	£169

Sigma Flashguns:	
EM-140 DG Macro Flash	£329

Nikon Flashguns:	
i40	£149
Di700 Air	£199

SEKONIC	
Sekonic L-308s	£179
Pro 478DR	£369
DigiPro F2	£210

PocketWizard	
MiniTT1	£165
FlexTT5	£179
Plus III Set	£229
PlusX Set	£149
5-in-1 Reflector	£24.99

Rogue	
3m Background Support	£99
FlashBender2	£31.95
FlashBender2 XL Pro Lighting System	£94.99

INTERFIT	
Wall Mounting Kit	£61.99
Folding Softbox	From £54.99
Reflector Bracket	£28.99

Westcott	
Omega Reflector	£119
Collapsible Umbrella Flash Kit	£109

Lastolite	
Ezybox Speed-Lite 2	£49.95
Ezybox Hotshoe	From £109
EzyBalance Grey	£19.99
Background Support	£139
TriFlip Kits	From £69.99
Urban Collapsible	£165
Reflectors: 50cm	£24
75cm	£39
95cm	£64
120cm	£79

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#### DSLR Lenses



CANON LENSES	
EF 20mm f2.8 USM	£449
EF 24mm f1.4L II USM	£1499
EF 24mm f2.8 IS USM	£409
EF 28mm f1.8 USM	£399
EF 28mm f2.8 IS USM	£429
EF 35mm f1.4L II USM	£1799
EF 35mm f2 IS USM	£469
EF 40mm f2.8 STM	£199
EF 50mm f1.2L USM	£1272
EF 50mm f1.4 USM	£349
EF 50mm f1.8 STM	£106
EF-S 60mm f2.8 USM Macro	£350
EF 85mm f1.2L II USM	£1769
EF 85mm f1.8 USM	£327
EF 100mm f2.8 Macro	£383.25
EF 100mm f2.8L Macro IS USM	£869
EF 300mm f4.0 L IS USM	£1139
EF-S 10-18mm f4.5-5.6 IS STM	£213
EF-S 10-22mm f2.8-4.5 USM	£499
EF 11-24mm f4L USM	£2699
EF-S 15-85mm f3.5-5.6 IS USM	£564.99
EF 16-35mm f2.8 Mk II USM	£1429
New EF 16-35mm f2.8L III USM	£2099
EF 16-35mm f4L USM	£819.15
EF-S 17-55mm f2.8 IS USM	£718
EF-S 18-55mm f3.5-5.6 IS STM Lens	£199
EF-S 18-135mm f3.5-5.6 IS STM	£379
EF-S 18-135mm f3.5-5.6 IS USM	£429
EF-S 18-200mm f3.5-5.6 IS	£439
EF 24-70mm f2.8L IS USM II	£1899
EF 24-70mm f4L USM	£725
EF 24-105mm f3.5-5.6 IS STM	£379
New EF 24-105mm f4L II USM	£1065

EF 28-300mm f3.5-5.6 L IS USM	£2249
EF-S 55-250mm f4.5-5.6 IS STM	£269
EF 70-200mm f2.8 L IS USM II	£1799
EF 70-200mm f4L IS USM	£1049
EF 70-300mm f4.0-5.6 L IS USM	£1279
EF 100-400mm f4.5-5.6L IS USM II	£1845



Nikon LENSES	
10.5mm f2.8 G IF-ED AF DX Fisheye	£619
14mm f2.8 D AF ED Lens	£1389
20mm f1.8 G AF-S ED	£659
24mm f1.4 G AF-S ED	£1829
24mm f1.8 G AF-S ED	£649
28mm f1.8 G AF-S	£579
35mm f1.8 G AF-S ED	£449
40mm f2.8 G AF-S DX Micro	£259
<b>£234 Inc. £25 Cashback*</b>	
45mm f2.8 PC-E Micro	£1499
50mm f1.4 G AF-S	£359
58mm f1.4 G AF-S	£1419
60mm f2.8 D AF Micro	£409
<b>£374 Inc. £35 Cashback*</b>	
60mm f2.8 G AF-S ED	£529
85mm f1.8 G AF-S	£399
105mm f2.8 G AF-S VR IF ED Micro	£769
<b>£724 Inc. £45 Cashback*</b>	
135mm f2.0 AF DC	£1149
180mm f2.8 D AF-ED	£759
300mm f4.0 AF-S PF ED VR	£1529
500mm f4.0 FL AF-S ED VR	£8449
600mm f4.0 FL AF-S ED VR	£10015

10-24mm f3.5-4.5 G AF-S DX	£745
16-80mm f2.8-4G ED AF-S DX VR	£899
16-85mm f3.5-5.6 G ED AF-S DX VR	£579
17-55mm f2.8 G ED AF-S IF	£1349
18-35mm f3.5-4.5G AF-S ED	£639
18-105mm AF-S DX f3.5-5.6 G ED VR	£239
18-40mm f3.5-5.6 G ED AF-S DX VR	£470
18-200mm f3.5-5.6 G AF-S DX VR II	£649
18-300mm f3.5-5.6 ED AF-S VR DX	£879
<b>£814 Inc. £65 Cashback*</b>	
24-70mm f2.8 G ED AF-S	£1379
24-70mm f2.8E AF-S ED VR	£1779
24-85mm f3.5-4.5 G ED G ED VR	£439
24-120mm f4 G AF-S ED VR	£999
<b>£914 Inc. £85 Cashback*</b>	
28-300mm f3.5-5.6 G ED AF-S VR	£829
<b>£784 Inc. £45 Cashback*</b>	
55-300mm f4.5-5.6 G AF-S DX VR	£319
70-200mm f2.8G ED AF-S VR II	£1998
70-300mm f4.5-5.6 G ED AF-S IF VR	£519
<b>£474 Inc. £45 Cashback*</b>	
80-400mm f4.5-5.6 G ED AF-S VR	£2199
<b>£2114 Inc. £85 Cashback*</b>	
200-500mm f5.6E ED VR	£1249
<b>£1164 Inc. £85 Cashback*</b>	

8-16mm f4.5-5.6 DC HSM	£599
10-20mm f3.5 EX DC HSM	£329
12-24mm f4.5-5.6 EX DC HSM II	£649
17-70mm f2.8-4.0 DC OS HSM	£349
18-250mm f3.5-6.3 DC Macro OS HSM	£349
18-300mm f3.6-6.3 C DC Macro OS HSM	£369
24-35mm f2 DG HSM A	£759
24-70mm f2.8 EX DG OS HSM	£526
70-200mm f2.8 EX DG OS HSM	£899
120-300mm f2.8 OS	£2699
150-600mm f5.0-6.3 S DG OS HSM	£1329
150-600mm f5.6-6.3 C DG OS HSM	£789

#### TAMRON

##### TAMRON LENSES - with 5 Year Manufacturer Warranty

35mm f1.8 SP Di VC USD	£599
45mm f1.8 SP Di VC USD	£599
85mm f1.8 SP Di VC USD	£749
90mm f2.8 SP Di VC USD Macro	£579
180mm f3.5 Di SP AF Macro	£799
10-24mm f3.5-4.5 Di II LD SP AF ASP IF	£419
15-30mm f2.8 SP Di VC USD	£929
16-300mm f3.5-6.3 Di II VC PZD Macro	£429
18-200mm f3.5-6.3 Di II VC	£189
24-70mm f2.8 Di VC USD SP	£749
28-300mm f3.5-6.3 Di VC PZD	£599
70-200mm f2.8 Di VC USD	£1099
150-600mm f5.6-6.3 SP Di VC USD	£829

\*Nikon Cashback ends 04.08.17

#### SIGMA

##### SIGMA LENSES - with 3 Year Manufacturer Warranty

24mm f1.4 DG HSM A	£649
30mm f1.4 DC HSM	£359
35mm f1.4 DG HSM	£599
85mm f1.4 Art DG HSM	£999
105mm f2.8 EX DG OS HSM Macro	£359
150mm f2.8 EX DG OS HSM Macro	£779

#### Photo Bags & Rucksacks



Pro runner BP 350 AW II Backpack	
ProTactic BP 250 AW	
ProTactic BP: 250 AW	£118
ProTactic BP: 450 AW	£179



Manfrotto 3N1-36 PL Backpack	
is designed	
with side release buckles for	
swapping positions and	
can be configured 3 ways.	
3N1-36 PL	£159



Anvil Slim Professional Backpack	
Anvil:	
Anvil Slim	£122
Anvil Super	£134.99
Anvil Pro	£129

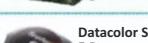


Hadley Pro Original Khaki	
Canvas/Leather: Khaki, Black	
FibreNyte/Leather: Khaki, Sage, Black	
Digital	£119
Small	£149
Large	£154
Pro Original	£189
Hadley One	£265

#### Computing



Pixma Pro 100S	£369
Pixma Pro 10S	£519
Pixma Pro 1	£599



Datacolor Spyder 5 Pro	£147
i1 Display Pro	£159
ColorMunki Smile	£79
Intuos Pro Professional Pen and Touch Tablet Small	£184
Medium SE	£219
Large	£379

#### Digital Compact Cameras



Stylus TG-4	£299
Stylus Tough TG-870	£249



Lumix LX100	£549
Lumix TZ100	£528
Lumix DMC-LX15	£599
Lumix FZ200	£529 Inc. £70 Cashback*

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##### Theta S Digital Spherical Camera

12 Megapixels with 1080p movie mode and 360° stills	£319
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#### DJI Mavic Pro Quadcopter Drone from £1099

#### SONY

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##### Cyber-Shot RX100 Mark IV

##### Cyber-Shot RX100 Mark V

##### Coolpix AW130

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##### £479

##### £339

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14mm F2.8 XF.....	E++ / Mint-	£539 - £549
16-55mm F2.8 WR XF.....	Mint-	£759
18-55mm F2.8-4.0 XF.....	E++ / Mint-	£349
18mm F2 XX R.....	Mint-	£219
23mm F1.4 XF R.....	Mint-	£589
27mm F2.8 XF.....	E++ / £219	
35mm F1.4 XF R.....	E++ / £279 - £299	
55-200mm F3.5-4.8 OIS XF.....	E++ / £449	
56mm F1.2 R APD XF.....	Mint-	£849
60mm F2.4 XF R Macro.....	E++ / £349	
90mm F2 WR XF.....	Mint-	£599

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9-18mm F4-5.6 ED Zuike.....	E++ / Mint £299 - £329
11-22mm F2.8-3.5 Zuike.....	E++ / £199
12-60mm F2.8-4.0 ED SWD.....	E+ / E++ / £249 - £349
14-42mm F3.5-5.6 ED.....	E+ / £39
14-42mm F3.5-5.6 Zuike.....	E+ / E++ / £49 - £59
14-54mm F2.8-3.5 MKII.....	E+ / E++ / £159
14-54mm F2.8-3.5 Zuike.....	E+ / £119 - £129
25mm F2.8 Zuike.....	E+ / £109
35mm F3.5 Macro Zuike.....	E+ / E++ / £69 - £79
40-150mm F3.5-4.5 Zuike.....	E+ / E++ / £39 - £49
50-200mm F2.8-3.5 SWD.....	E+ / £399
70-300mm F4-5.6 ED Zuike.....	E+ / E++ / £169 - £199
150mm F2 Zuike.....	E+ / £1,099
EC14 Tele Converter.....	E+ / E++ / £139 - £169
EC20 2x Tele Converter.....	E++ / Mint- £199 - £229
EX25 Extension Tube.....	Mint- / Mint £65

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12-35mm F2.8 G Vario OIS.....	E++ / £539
12-35mm F2.8 G X Vario OIS HD.....	E++ / £489
12-60mm F2.8-4.0 Leica DG Vario.....	Mint- / £749
14-42mm F3.5-5.6 Asph OIS.....	E++ / £75 - £79
14-45mm F3.5-5.6 G Vario.....	E+ / E++ / £119 - £129
14-45mm F3.5-5.6 Asph OIS.....	E++ / £124
15mm F1.7 DG ASPH.....	E+ / £339
20mm F1.7 Asph II.....	Mint- / £179
20mm F1.7 G Pancake.....	E+ / £159
25mm F1.4 DG Summilux.....	E++ / £299
35-100mm F2.8 GX Vario.....	E++ / £599 - £649
35-100mm F4-5.6 OIS Asph G.....	Mint- / £159
45-200mm F4-5.6 Lumix G Vario.....	E+ / £159
Olympus 12mm F2 ED M.Zuiko.....	E+ / E++ / £399 - £439
17mm F1.8 M.Zuiko Black.....	Mint- / £289 - £299
17mm F2.8 M.Zuiko.....	Mint- / £119
25mm F1.8 M.Zuiko - Black.....	Mint- / £229
40-150mm F2.8 M.Zuiko Pro.....	E++ / Mint / £949
45mm F1.8 M.Zuiko.....	Mint- / £119 - £139
75mm F1.8 ED Silver M.Zuiko.....	Mint- / £549
MC-14 1.4x Teleconverter.....	Mint- / Mint £219
Samyang 16mm T2.2 VFD.....	Mint- / £239
21mm F1.4 ED AS UMC CSC.....	Mint- / £199

#### Sony E-Mount Lenses

16-35mm F4 ZA OSS.....	E++ / £799
18-200mm F3.5-6.3 OSS.....	E++ / £279
18-200mm F3.5-6.3 OSS LE.....	E++ / Mint- / £389
18-200mm F3.5-6.3 OSS Power Zoom.....	E++ / £679
18-55mm F3.5-5.6 OSS.....	E++ / £79
24-240mm F3.5-6.3 OSS FE.....	Mint- / £579
50mm F1.8 OSS.....	Mint- / £189
Samyang 50mm F1.2 AS UMC CS.....	Mint- / £229
135mm f2 ED UMC FE.....	Mint- / £299

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X-E2 Black Body Only.....	E++ / £299
X-Pro2 Body Only.....	Ex Demo / E++ / £949 - £989
X-T1 Black Body Only.....	Mint- / £499
X-T1 Handgrip Small.....	E+ / E++ / £49
X-T10 Black Body Only.....	E+ / E++ / £299 - £309
X-T10 Silver Body Only.....	E++ / Mint- / £299 - £319
X-T20 Body Only - Silver.....	E++ / £679
X100T + Case.....	Mint- / £689 - £729
X100T - Silver.....	Mint- / £689

Olympus OM-D M10 Body Only - Black.....	E++ / £199
OMD E-M5 Black Body + RRS Grip.....	E++ / £279
OMD E-M5 Black Body Only.....	E+ / Mint- / £229 - £259

OMD E-M5 Silver Body Only.....

Pen-F Black Body Only.....

E++ / £749

Gadget Bag - Shoulder Bags

Billingham 100 Presstop - Black.....

E++ / £169

445 Black / Tan.....

E+ / £29 - £179

445 Khaki Canvas.....

E++ / £199

445 Nytex - Khaki/Tan.....

Unused / £169

Beta 12 - Black.....

E++ / £39

Beta 12 - Minolta.....

E++ / £45

F1.4 Khaki - Nytex.....

E+ / £119

F5.6 Khaki Bag.....

E- / £39

Packington Black / Tan.....

E+ / £129

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Kata CC191 Holdall.....

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CS-17 Video Messenger.....

E++ / £59

Digital Case DC435.....

E++ / £19

ED90 Digital Body + Lens sleeve.....

E++ / £15

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KT212 Bag.....

E++ / £19

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Classified 250 AW - Black.....

E+ / E++ / £59

ILC Classic 100 - Black.....

E++ / £19

Luminar Beltpack.....

E++ / £15

Messenger Limited.....

E++ / £35

Nova 160AW - Red.....

E++ / £15

Nova 1AW - Green.....

E+ / £9

Nova 5 - Forest Green.....

E+ / £20

Orion Belt Pack.....

As Seen / £15

Orion Trekker.....

E++ / £15

Professional Sling Bag 50.....

Mint / £55

Specialist 85AW.....

E+ / E++ / £39

Toploader Pro 70AW + Belt + Lens Cases.....

E++ / £49

Hasselblad H Digital

H5D Complete (50MP).....

E++ / £9,489

H4D Complete (60MP).....

E++ / £10,995

H4D+ Prism (50MP).....

E++ / £5,849 - £6,499

H3DII Complete (39MP).....

E++ / £3,900

H2 Body + P20 Back.....

E+ / £1,499

H2 Body + Prism + P30 Digital Back.....

E++ / £1,699

28mm F4 HCD.....

E++ / Mint- / £1,989 - £2,450

35-90mm F4.5-6.3 HC.....

E++ / Mint- / £3,549 - £3,550

35mm F3.5 HC.....

E++ / £1,999

35-100mm F3.5-4.5 HC.....

E++ / £2,199

50mm F3.5 HC.....

E+ / £1,199

50mm F3.5 HC Macro.....

Exc / E++ / £899 - £1,489

50mm F3.5 HC Macro.....

E+ / £899 - £999

30mm F4.5 HC.....

E+ / £1,950

30mm F4.5 HC Macro.....

Mint- / £1,245

1.5x HTS Tilt/Shift Converter.....

Mint- / £2,445

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Email : info@ffordes.com

Hasselblad V Lens

40mm F4 C T\* BLACK.....

E+ / £549

50mm F4 CF.....

E+ / £399

50mm F4 CF FLE.....

Mint- / £799

50mm F4 Cf FLE.....

E+ / £899

120mm F4 CF Macro.....

E+ / £549

120mm F4 CFE Macro.....

E+ / £999

150mm F4 C Black.....

As Seen / E+ / £99 - £149

150mm F4 CF C.....

E+ / E++ / £299 - £399

160mm F4.8 CB.....

E+ / £349

250mm F5.6 C Chrome.....

Exc / E+ / £99 - £299

250mm F5.6 Chrome.....

As Seen / E+ / £19

500mm F8 C Black.....

E+ / £399

500mm F8 C Black.....

Exc / E+ / £99 - £299

Slingshot 100 AW.....

E+ / E++ / £17 - £19

Slingshot 102 AW.....

E+ / £229

Slingshot 200 AW.....

E+ / £19

Slingshot 202 AW.....

E+ / £39

Slingshot 300 AW.....

E+ / £19

Stealth Rucksack.....

Mint- / £49

Vertex 300 AW.....

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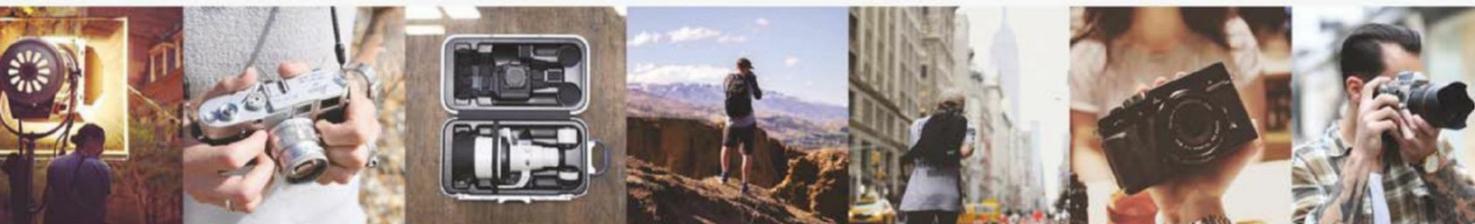


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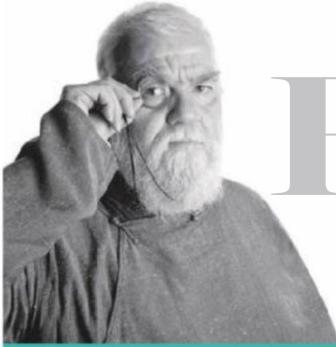
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# Final Analysis

**Roger Hicks considers...**

'Study for 59 toothbrushes', 2016, by Gideon Mendel



**'There's a clear reference to the taxonomic or classificatory school of photography'**

**W**ords and pictures can be a dangerous mixture, not only for their strengths but also for their weaknesses.

*Dzhangal*, by Gideon Mendel, is a brilliant book and exhibition. It is just as well that it is brilliant, as it is grievously open to charges of recursive pretentiousness.

First, do you know what *dzungal* means? I didn't. In Pashtun, it apparently means, 'This is the forest'. Hindi and Marathi use the word *jangal* in a similar sense, from the Sanskrit *jangala*, to mean empty or dry ground. In English, the same root is the origin of the word 'jungle'. Second, do you know where they speak Pashtun (also known as Pushtu and Pashto)? Full marks for Afghanistan and Khyber Pakhtunkhwa (what was, until 2010, the North-West Frontier Province). Yes, OK, anyone with a weakness for history, especially the history of the Great Game between Russia and British India in the late 19th century, or

readers of the Flashman books, will know this. Even so, I can't help feeling that it's rather specialised.

#### Welcome to the jungle

Third, there's a clear reference to the taxonomic or classificatory school of photography that arguably goes back to the portrait photography of August Sander (1876-1964): an attempt to extract 'types' from similar subjects. This in turn has given rise to a school of classificatory photography of similar objects. My favourite is a parody of the Bechers' famous water towers, in which they are all leaning, part demolished or falling over. In other words, it's a trope or meme or whatever today's fashionable term may be.

Fourth, did you immediately make the connection between *Dzhangal* and the Calais Jungle (where, of course, there are/were numerous Afghans)? 'Cos that's what it's all about. Mendel found these toothbrushes in the mud of the

substantially abandoned Jungle, cleaned them up, and made this memorable photograph. Once you know the story, it has ten times or perhaps a thousand times the impact of just a slightly jokey pretty-picture poster of toothbrushes. After all, we all (or most of us) clean our teeth. Other similar pictures in the series include shotgun shells, mercifully dating from before the Jungle, and children's abandoned shoes. Dissimilar pictures include a doll, a part-burnt shirt and more.

As I say, it's a brilliant series. But the question is, how hard should we have to work to see the connection? In my view, not very. Yes, those of us who (though a mixture of knowledge and research) 'get' the message can pat ourselves on our backs. There will always be those, too, who will home in on sheer exoticism: on words such as *dzungal*. But might it not have been cleverer, and a better way of spreading the word, to call it something like 'Pictures from the Calais Jungle'?

**Roger Hicks** has been writing about photography since 1981 and has published more than three dozen books on the subject, many in partnership with his wife Frances Schultz (visit his new website at [www.rogerandfrances.eu](http://www.rogerandfrances.eu)). Every week in this column Roger deconstructs a classic or contemporary photograph. Next week he considers an image by Carlos Ayesta and Guillaume Bresson



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